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ORIGINAL ARTICLES.

THE PREVENTION OF WAR AND THE PROMOTION OF PEACE, IN RELATION TO STATE MEDICINE.

Read in the Section on State Medicine, at the Forty-seventh Annual Meeting of the American Medical Association, held at Atlanta, Ga., May 5-8, 1896.

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The common saying that every question has two sides is generally true. But it is also true that the reasons in favor of one side are more numerous and stronger than those in favor of the other. It is fortunate that this is so. Persons of a fair degree of intelligence, by laying aside selfishness, passion and prejudices and by honestly using proper available helps, can reach such proofs as render truth plain and duty clear. One of the greatest questions that can arise in the course of human affairs happens to be before the nations as *the question of the hour*. It is the question of "war or peace." Two strongly antagonistic tendencies are in energetic action over nearly all the civilized world. The tendency toward war is manifested by the popular masses and their legislative representatives in our own and many foreign countries by an unusual restlessness, a want of forbearance, a spirit of aggressiveness, of pugnacity and a loud clamor for hasty and extreme action. On the other hand, the tendency toward peace is equally pronounced. It is heard in a strong, clear, solemn, impressive voice that comes in great earnestness, spontaneity and harmony from the consciences and convictions of the foremost, the best and the most intellectual men of the times—the great leaders in education, science, statesmanship, economics, ethics, beneficence and industry. Especially comes this voice from the two great English speaking centers of christendom—Great Britain and the United States. It demands that a system of international arbitration be adopted for the impartial and authoritative settlement of international disputes and wrongs, without resort to war. The question is open and urgent. Prompt decision must be had. Even if complete unanimity of *opinion* be unattainable, no neutrality in *action* is practicable. All influential persons and all potent agencies must act with one of the parties or with the other. The present occasion furnishes a fit time and place for discussing and deciding what part State medicine, as the proper representative of all the coördinate departments of medicine and of all the men who make up the medical profession, is to act in the great cosmopolitan drama that is being planned. To invite this discussion and to have the opinions and actions that may be elicited properly set forth is the motive of this paper.

In a subject so momentous in magnitude and scope as the one before us, many things that are more or less important must be passed without mention. The limited time allotted imposes this necessity. Moreover, the thorough knowledge and agreement known to exist in many pertinent matters would make it equally a waste of time and an abuse of patience to attempt to prove what is already believed and to gain assent to what is already granted. Let us not be understood as ignoring the matters that are omitted or as underrating or disparaging such as may seem to be too little elaborated, or insufficiently emphasized. Let us try to get a correct conception of State medicine, of war and of peace, respectively, then let us view the three in close juxtaposition, that we may better see their just relationship.

State medicine has for its function to formulate, apply and enforce rules for the protection and improvement of health and for the prevention and management of disease in organized communities. Its great and final aim is, therefore, the preservation, protection and improvement of human life. Its *importance* must be estimated by the value of human life. But how may this value be ascertained and if possible standardized? Only by one, or two, or all of three methods: 1. Sacred and human tradition confirmed by the common agreement of mankind. 2. By consciousness and ratiocination. 3. By observation of the work that can be done by man.

Let us look, as in a dictionary, for the value of human life—meaning by life, the *living human being*—as indicated by tradition and fixed by the common estimate of our race, and we find it among the foremost, if not the very foremost of all precious and sacred earthly things. The first uttered injunction to the primal human pair was this: "Be fruitful, and multiply and replenish the earth and subdue it." The first penal verdict was a sentence pronounced upon a shedder of human blood. Subsequently the command was given: "Thou shalt commit no murder." Old Testament writings abound in evidences that the care of life is the first duty of law. In the enumerations of rights and in the preambles and drafts of forms for organic laws submitted to men of various countries, races and times, preparatory to the formation of governments, constitutions and laws, the provision for the protection of life has been a leading requirement and by being ratified has become a solemn pledge of the race. That life is a foremost, if not the foremost and greatest of values, is plainly implied by the fact that prophecy, history, poetry, philosophy and philanthropy voicing the concurrent sense of our race, deplore wars, famines, pestilences, earthquakes, floods, poverty and oppression as among the greatest of human evils, because of their destructiveness to human life and, on the other hand, extol peace, plenty, security, wealth, domestic repose and abounding health as among the greatest of public blessings because of their benign influences upon the life-interests of the world. That the greatest of these

evils is war, and the greatest of these blessings is peace, are conclusions based upon the clearly implied predicate that life is the greatest and most sacred of human interests and values.

Let us next appeal to the tribunal of consciousness and ratiocination. In doing so let us clothe ourselves in devout humility. Let us remember that we are nearing the dark border of the spirit land, and let us take heed that we put not unholy footprints beyond the proper boundary of human territory. Let us exclude all physical, metaphysical and theologic methods, doctrines and dogmas—efforts to understand or demonstrate the essence, origin or eternity of life, as not at all pertinent to our present purpose. Let us also leave out all evolutionary questions as to what may have been the forms and capacities of man in periods of duration that have long vanished into the remote past, or what may be his possibilities in a future period that lies beyond the reach of all reasonable and practical speculation. Thus we will find ourselves at home, as it were, among beings of like size and born with ourselves—face to face with incarnate life—life with bodily limitations and instrumentalities, with consciousness, sensation, power of motion, reason, conscience, speech, knowledge of good and evil and tendencies to both. This is plain, practical, undeniable, tangible, personated life—rather it is living man, the man of our past, present and future—the typical man of our planet and our era. What value do his conscious superiority, and his capacious attributes and his regular courses of action, assent and maintain, as due to his life? Obviously the highest that can attach to any earthly interest, and beyond all fixable estimate. All else that man has, will he give for his life; and, as a rule, all else that he has, he does give for his life when its redemption is required.

In the Declaration of American Independence life is held to be an "inalienable right." In accurate definition life is not an inalienable right, nor, indeed, a right at all. The life of a living being is an attribute, an endowment, a possession of that being, and like other endowments, possessions or trusts, it is conditioned, forfeitable and alienable in case of both individuals and communities. It can not be maintained that human life is an absolute, persistent, fundamental good; it is only a fundamental *possibility* for good, and this even alone makes it a thing of priceless value.

The third and only remaining method of ascertaining the value of human life is the plain and easy one of judging a tree by its fruit. What work, then, and how much of it, both on the side of good and of evil, is man able to do, so far as we can judge from what he has already done, what he is now doing, and what he is evidently proceeding to do?

Thousands of times he has desolated the earth by his resistless blows in war, and thousands of times he has restored it to prosperity, by his all-conquering perseverance in peace. In schemes for wreaking his vengeance on the one hand and of extending the field of his blissful beneficence on the other, he defies all dangers and disregards all costs. He compasses both sea and land, sending his ships and his cables through the one and his telegraphs and cars over the other. He scales the loftiest mountains and fathoms the deepest oceans. He marches through clouds of dust and seas of blood. He enters as a missionary the far off abodes of horrid cruelty in the face of all privations and perils. He treads under foot the slow moving glacier and the never melting snow. He traverses Alaska by voyage and Sahara by caravan, and explores and develops the resources of both. He tames the massive elephant into a kneeling beast of burden. He drags from the rivers, the shores and the seas their monster crocodiles, alligators, sturgeons, sharks and whales, and converts them into food and merchandise. He plays with the manes of the strongest lions of Africa and with the teeth of the fiercest tigers of Bengal. He sinks quarries and mines for sandstone, freestone, limestone, granite and coal, the useful and precious metals, thus furnishing employment to the idle, indispensable necessaries to the poor, comforts to such as can afford them, desirable luxuries to the affluent and rich. Many valuable commodities to commerce; many appropriate materials to manufacturers, artists and artisans; many avenues to varied employment; to trade a widened domain and to finance an available standard of value. In pasture, forest, farms, fields and fishery, he provides the great ruling contributions to clothing and food for the human family. He opens wide and deep channels through everglades, pocosons and lakes at once making waterways for trade and reclaiming for cultivation millions of acres of valuable land. He sinks artesian tubes through the thick, dense strata of many vast unwatered areas and brings up copious unfailing streams to fructify the soil and soften the air, and thus causes the desert to blossom as the rose and waste places to teem with population and wealth. He bores deep into the earth's crust and taps great long-sealed reservoirs of gas and oil and brings up the contents to furnish mechanical illuminating and various other materials that give diffusion to human progress and well-being. He spans great rivers and straits with bridges and ferries. He has already or will shortly have, his sleepless sentinels on watch, in hailing distance of each other, all over the continents and islands to give timely notice of storm centers that may form or threaten to form, and to warn all men to provide against blighting blizzards, desolating tornadoes, wrecking ocean forces, or inundating cloud bursts. In Byron's day, it was only in the transporting frenzy of poesy and when live lightning leaped from cliff to cliff and the loud thunder shook the far off air that "Jura answered back to Alps;" now in words of soberness and in stormless calm, the Himalayas can talk with the Rockies and the Urals with the Andes. Orders of the President, issued with gentle but considerate firmness in Washington, are instantly heard throughout most of the States and territories of the Union. Victoria speaks in London and her words of love and authority are promptly heard by dwellers in Great Britain and Ireland, in India, Australia and New Guinea, in the East and West Indies, in the Dominion of the Canadas, in provinces in South America, and in various other far off possessions. Nearly two thousand years ago the Great Galilean told his Apostles that they should do greater works than even he was then doing, and, by the instrumentality of railroads, telegraphs, telephones and phonographs. Talmage and other evangelists are now enjoying the promise and fulfilling the prediction by preaching in New York or Washington and being heard the same day, to the ends of the earth.

Cleveland touched a button, and instantly the machinery from all the world went into motion in far distant Chicago. He touched a button and every spindle, lever and engine in Atlanta responded to the touch.

In travel, the day's journey of antiquity is now accomplished in less than an hour. We lie down to sleep when we start for a distant destination and when we awaken we are there. The hours of darkest night are now as valuable for travel and many other purposes as those of brightest day, and rest is as effective as the most energetic toil. In midst of densest darkness men can cause radiant light to shine—not by the slow word of command, but with the quickness of thought. In all the departments of applied mathematics man displays his wonderful works of perseverance and capacity. He gives to navigation all her maps of the stars and constellations, her charts of the oceans and seas, her compasses, barometers, chronometers and quadrant. He marks the boundaries and calculates the areas of states, nations and continents, and the altitudes of their various parts; locates routes and estimates costs for railroads and inland water ways for travel and transportation and adjusts the gradings of railroads for thousands of miles. In the department of bookkeeping he is the accountant without whom no census could be taken, no tax levied, assessed or collected, no financial suits settled in law, and by whom it could, without egotism or boasting be said: "By me kings reign and princes decree justice." In statuary, painting, poetry and oratory man has opened in the hearts of his fellows new fountains of justice, pity, tenderness, sympathy, compassion, forgiveness and of love. But it is in astronomy, geology, cosmology, physics, chemistry, biology and medicine that in the more recent times man's achievements have become the most transcendently glorious, marvelous, beneficent and financially important. He has analyzed the earth, separated, differentiated and classified its elements and their combinations; has measured and weighed the earth and the moon and ascertained their orbits, distances and revolutions; has done the like for the other planets and satellites of our system; has discovered and explained the causes and laws of the tides and predicted the times of their coming for all the points of the coasts of the world. Away back in the milleniums of time much was undoubtedly known about the conditions of health. Thirty-five hundred years ago the great Hebrew lawgiver wisely recognized cleanliness as essential to health, and enjoined morality, isolation and purification as safeguards of the life of individuals and communities. But disregard of this wise enactment was followed by outrage and war and these by famine, poverty, filth and discouragements. These conditions brought on many horrid and loathsome pestilential epidemics that ravaged and sometimes almost depopulated medieval nations and cities. One hundred years ago, there lived in Gloucester, England (the place just now under an epidemic of smallpox) a humane physician of very studious turn and great aptitude for scientific research. His name was Edward Jenner. His acumen, patience and perseverance were all taxed to the utmost for a time longer than the average man lives, but finally accomplished the wonderful and beneficent discovery of a preventive of smallpox. The discovery was so valuable in itself, so hard to account for, and so suggestive of some great underlying principle that it excited the curiosity of scientists all over the world. These scientists by careful, persevering and protracted study, observation and experiment, have discovered many disease germs and germicides, and much about the sources and laws of action of these, and have already obtained such control over some of the dreaded epidemic diseases of animals, plants and man as to effect an annual saving of thousands of human lives and of countless millions of property values in animals and crops.

In the above feeble attempt to place in view man's working power, not as much as a tithe of all that invites consideration has been said or even alluded to. But surely enough has been said to show that man is, in reality, the lord of earth's present era, that he is discharging the commission of subduing the earth, with a prospect and promise of final success, that his life is, therefore, the leading object of human care, and that everything that either directly or remotely affects it, for better or for worse, lies within the domain of state medicine.

We come next to consider how war and peace stand related to human life.

It is admitted that war deserves the credit of having done much good, of having sometimes carried the blessings of civilization to benighted barbarians, of having aroused activity where energy was dormant, of having forced hostile and disunited tribes to dwell together and form states and nations, of having improved its votaries in enterprise, courage, patriotism, magnanimity, gallantry and chivalry. It may also be admitted that peace has its proneness to certain evils, such as supineness, slothfulness, effeminacy, enervation, gluttony. It is believed to be fair to let these opposite influences offset each other and that our purpose will be most quickly and fairly subserved by placing the conceded effects of war and those of peace side by side and letting the spectator impartially judge for himself.

It has been shown already that by the traditions and common consent of the human race, the fact is admitted that war is the arch enemy of human life and peace its best friend. To some it may seem that our whole case might rest here. But others may think that proofs are so numerous, obvious and available and the cause so momentous that something more should be added.

Especially formidable would be an array of the statistics of war and of peace. But for this there is no time available here. We must refer to histories, official reports, and compilations of census returns for figures to show how vastly and palpably peace protects life and war destroys, how peace increases population and war diminishes it, how peace establishes law and order and war brings anarchy and chaos. Peace clears land, fences it, plants seeds, raises crops, builds homes and farm houses, rears domestic animals for food, clothing and profit, drains and reclaims swamps, fens and bogs, thus converting sources of pestilence into fountains of health, wealth and life. War burns or razes these homes, kills or otherwise destroys the inmates, consumes the flocks and herds, leaves fields that were ripe for harvest a naked surface on which victims of famine must drop down and die. How peace by long periods of patient toil, steady perseverance and unselfish economy, builds highways and factories, villages, towns and cities; and how war rapidly reduces all these to ashes and ruins. How peace covers continents and islands with happy travelers and merchants, with depots and stores of food and clothing and other human comforts and luxuries; war with armories and magazines for destruction and death. How peace checkers the oceans and rivers with merchantmen, happy voyagers and hopeful trad-

ers, that as they pass each other exchange smiles and wave friendly greetings; war with privateers and battleships commissioned to rob, kill and destroy. How peace, by encouraging thought, industry, invention, discovery, enterprise, science and art among the millions of earth's inhabitants, stores up billions upon billions of accumulated value—crystallized profit-coined capital—thus furnishing means for additional strides in the path of upward progress. How war, both by paralyzing the agencies of peace and by a wholesale process of consumption and waste, by enormous reduction of income and extravagant expenditures, exhausts the treasuries of states, of nations, and often of the entire civilized world; then resorts to promissory paper and accumulates public debts to amounts of billions upon billions, tempting following generations of children to repudiation, or subjecting them to endless oppressive, impoverishing, vexatious, demoralizing taxation for the payment of claims which they did not contract and did not approve. How peace, for all the countless and boundless benefits it creates and bequeaths, expects, and, as a rule, receives no state appropriations for its veterans and dependents, leaves no public debt and imposes no tax. Ben Franklin sent heavenward an ardent invocation. His prayer mounted up to a dark cloud that was flashing with lightning. From the midst of the cloud there descended a great angel agent and filled a vial with blessings to be poured out upon the inhabitants of the earth-blessings that now fill not only all lands but also all seas. They are blessings, the fruits of peace, priceless but costless. Franklin's compensation is the halo of glory that encircles his name. The like is true of Galvani, Faraday, Morse, Roentgen, and of the great host of scientists whose gratuitous but invaluable achievements can be accomplished only in the quiet retreats of peace. From the same beneficent retreats, in our own days, came the discovery of anesthesia, all without cost. A great phantom-like apparition that made its first earthly advent, that Eve might be born from Adam's painless side, and its second in the fullness of time for the fulfillment of the prediction: "There shall be no more pain." Long, Wells, Jackson and Morton received no compensation or pension. Military and naval academies, navy yards, veterans and their families cost the world billions upon billions of dollars annually, necessitating oppressive taxation, this taxation causing poverty, and poverty bringing exposure, disease and death.

But the industrious work of many lives and the vast volumes of many libraries would not suffice for the endless detail of the stunning contrasts between war and peace, and the opposite tendencies of their respective works as shown in the gross and obvious facts that are presented in ordinary statistics. Even if this overwhelming task were accomplished only a few pages of the momentous history would be written. Nature has vast regions that lie beyond the domain of statistics. The greatest and dearest of human interests are of things for which there is no commercial unit and no possible place in mathematics. During one of the fierce battles of our recent war it is estimated that ten thousand men were killed in not more than ten minutes, but the value of these men in all directions and the cost to the aggregate interest of the world of their horrible slaughter can never be estimated until death sighs can be painted and family agonies analyzed, family bereavement measured and the suppressed possibilities of themselves and of their prevented offspring can be understood. It is a saying that more men are lost in war by disease than by the enemy. It is probable, on due reflection, that the damage caused by the remote, long-lasting, unrecorded and ramifying influences of war far transcend its direct, obvious and loud-crying evils. These remote and recondite influences contribute in numberless ways, in various degrees and for indefinite periods, to reduce human vitality and to increase the mortality of disease. They are solid realities in casting shadows on the face of the world and in darkening the homes and the highways of men. They are not visible to man's eye, nor audible to man's ear, nor enumerable in man's figures, but, nevertheless, they are potent agencies in drying up fountains of life that otherwise would have fed perennial streams of hope, faith, love and happiness.

Here this humble thesis must end. The conclusion reached is: That human life is man's paramount earthly interest and the foundation of his temporal happiness; that war and its effects are great destroyers of life; that peace and its fruits are great conservators of life; and, therefore, that the prevention of war and the promotion of peace are not only legitimate but imperative works of State medicine.

Hoping that the medical brotherhood of this country may desire to place itself properly on record on the question above presented, and that some practical action may be inaugurated and expedited, I beg to submit to the Section on State Medicine, and through it to the AMERICAN MEDICAL ASSOCIATION, the following resolutions:

Resolved, That the AMERICAN MEDICAL ASSOCIATION is in favor of the movement now in agitation for the establishment of an international system of arbitration for the settlement of international disputes and wrongs without resort to war.

Resolved, That the said ASSOCIATION constitute the Surgeon Generals of the U. S. Army, U. S. Navy and U. S. Marine Hospital Service its representatives to act with the great organization already at work in favor of said arbitration.

HEALTH BOARDS AS DISTURBERS OF THE PEACE.

Read in the Section on State Medicine, at the Forty-seventh Annual Meeting of the American Medical Association, at Atlanta, Ga., May 5-8, 1896.

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With a title as sensational as the one that I have ventured to announce for this paper, it may not be amiss to hasten the statement that no violent attack upon boards of health is contemplated. The great good accomplished through the official supervision of these boards, whether municipal or State, is so patent that he would be foolish, who, at this late day, would asseverate the contrary. It is not necessary to attempt to enumerate the good accomplished nor to chronicle the unselfish labors of the men to whom all honor should be given, and by whom these things have been brought about. But, acknowledging the good, and wishing them greater usefulness and power, it may not be amiss to have some of their acts pass in review for kindly inspection, and to criticize, in a friendly manner, should errors or failings appear.

You are all familiar with the Oriental fable, where the Cholera on his way to Bagdad, informs a dervish in the desert, of his intention of killing 10,000 people with his plague. And on returning from his mission, is met by the same dervish who accuses him of a much

higher death rate. The Cholera replied that he had kept himself well within his bounds, the excess was due to fear. Doubtless, if you have not read, you have all looked at that volume of goodly size by Daniel Hack Tuke, entitled "Illustrations of the Influence of the Mind upon the Body in Health and Disease." With the thought suggested by these illustrations in mind, may not a doubt arise that sometimes our health authorities in their efforts to warn, really alarm; wishing to awaken, they really affright; desiring to preserve peace, they really disturb it.

I have known in a case of diphtheria, where neither an appeal to gratitude for past favors bestowed, nor to greed for a present reward offered, was able to secure any one to perform the household duties for the well, in a house where the proper isolation could be maintained in the apartments assigned to the ill. Of a husband who was not able to be with his wife at the deathbed of their son; she must bear the strain alone, or he would be so quarantined that, not being subjects for public support, the proper supplies could not be brought to the imprisoned household. Of an arrangement by which the death of a child would be announced to a neighbor after the manner of the telegraphy devised by the political prisoners in Russian fortresses, as described by Mr. George Kennan, because no one ventured beyond the door, on which the dread placard was placed, to do a neighborly deed. Making an inspection for our state board of health in an outbreak of diphtheria, I inquired as to possible carelessness in isolation, and was told that the simple announcement of the presence of the disease was enough to keep every one away, regardless of what might be the ability of the family to properly care for the suffering.

I might multiply examples, but these are enough for my purpose. And I ask you that if this is the outcome of the teachings of our health boards, is it not a fair inference that one result of these teachings is to disturb the public peace?

You all remember the scare attendant upon the last visit of cholera in New York Harbor. Of the meetings of the health boards, their preparations and pronunciamenta, for inspection of trains, detention of the suspected, etc. One effect of that effort on the part of the state boards was to unceremoniously, let us hope not uncharitably, take a man from his comfortable bed-room in a certain Pennsylvania hostelry, to a covered porch, because he was attacked with vomiting and purging. The fear that the man might be attacked with the dread disease, and the business of his house ruined because of its contagious nature conquered every other feeling in the heart of the landlord. Fortunately the night was a warm one, and no serious result followed.

These are trivial incidents, no doubt, and some of you may be inclined to quote:

> "Diseases, desperate grown,
> By desperate appliance are relieved
> Or not at all."

And some to point to the fact, of which we are all proud, of the restricting the disease to the harbor whence it came and to the communities bordering on it; or to the wonderfully encouraging statistics that demonstrate the decrease of communicable diseases through the employment of such agencies as are here criticized. Still others may deny the conclusion and assert that these incidents are not an outcome of any action of the health authorities.

To the former objections, permit me to make clear that the contention is not for a disregard of precautions, but the unnecessary alarm to defend against a danger that does not exist; the exciting a dread of a hygienic bugaboo. The latter objection is a fair one. If such incidents as I have described are not fairly the results of the teachings of the boards of health, it is not only unfair, but unkind as well to even associate the two in the same paragraph.

As I examine some of the pamphlets prepared by our State boards for popular reading, I am reminded of a habit in dress of the worthy burghers of New Amsterdam as chronicled by that most careful historian, Diedrich Knickerbocker. These worthy heroes, you will remember, were wont to wear a half score pair of breeches at one time. Whether these indispensable nether garments were placed one over the other at one time, or whether a period of time elapsed for one pair to become somewhat threadbare before another pair covered the sturdy limbs, the historian is not careful to state. If the latter supposition be the correct one, the resemblance suggested by the pamphlets is closer. At some time in the past the medical world was using an hypothesis as to the method of communication of a disease, and the sanitarian arranged his precautions accordingly. The world wears out the hypothesis and there is need for a change of procedure. There remains, however, the doubt of conservatism. May it not be possible, under some circumstances, no matter how remote, that the older attempts to express the methods of communication may still be true? What a risk may be run if every possible precaution be not taken. The old garment is not discarded although the new one is added, and some of the circulars are almost worthy the name of "Tenbroek." Does this seem to be an exaggeration? I quote a few paragraphs, first from some of these circulars prepared by our boards of health for the instruction of the citizen; secondly, from certain named physicians who have written for the profession. I use but a very few of the possible citations from the former, and only enough from the latter to demonstrate that I have not restricted myself to the opinions of the few. I will then leave it to you to determine if my illustration is an apt one.

"Most of the so-called 'contagious' diseases are usually spread by means of atmospheric dust of which the germs of these diseases sometimes constitute a part. Consumption, diphtheria, pneumonia, influenza, scarlet fever, measles, whooping cough and smallpox are usually spread in this manner."

"Diphtheria is spread by the sputa, saliva and whatever comes from the throat and mouth of the patient, and by the dust which results from the drying of such saliva."

"Diphtheria poison has great vitality and may lie dormant in clothing, blankets, paper and houses for weeks and even months. It seems to be able to travel in the air of sewers, and thus to pass from house to house; also to rise from the emanation of putrid privies and cess-pools."

"Close attention should be paid to the sources of water and food supplies. If possible, only the purest water should be used. If there is any doubt about the purity of the water, boil it thoroughly before using it." (From a pamphlet on diphtheria.)

"A general rule applicable to all persons sick or well, is that the handkerchief should be looked upon

with suspicion. They should not be used after any secretion from the nose has been permitted to dry upon them. After being used they should be put into a paper bag which may then have its top twisted shut, there to remain until put into boiling water."

These are enough for our purpose, and it is not necessary to give the source of the quotations: they were selected hap-hazard from various pamphlets; had the circulars of other boards been used, essentially the same language would have been found. Nor is it asserted that everything quoted is open to adverse criticism; the general excellence of the suggestions makes the harmful portions all the more dangerous. The only arrangement attempted was to group several statements regarding diphtheria for the convenience of brevity in the discussion.

Permit me now to bring several quotations to your notice *à propos* to the extracts already read.

"The relation between imperfect drainage and the diphtheria poison has not yet been satisfactorily determined. Perhaps as Thorne suggests, the faulty conditions produce sore throat of a benign character, which, as in scarlet fever, affords a soil suitable for inoculation of the diphtheria germ, when present in the air. Drains, too, he thinks may retain the virus received through the sputa and dejecta of the sick. This author states that no prevalence of diphtheria has ever been definitely traced to polluted water." [1]

"Diphtheria is a highly contagious disease, readily communicated from person to person. The poison is given off in the pharyngeal secretion and in the saliva, but not in the breath. . . The virus attaches itself to the clothing, the bedding and the room in which the patient has lived and has, in many cases, displayed great vitality. The disease may be transmitted by inoculation. The contagion does not seem to be widely diffused in the neighborhood of the patient. At the Montreal General Hospital we rarely had cases develop in the wards adjacent to those in which there were diphtheria patients, in bed." [2]

"There is no evidence that the disease (diphtheria) can be disseminated by the air for more than a few feet; it is usually necessary to come in actual contact with the bacillus at its lodging place in order to become infected, and unless it is propelled from the patient for some little distance by the patient in coughing, it is rarely taken through the medium of the atmosphere." [3]

The *New York Medical Journal* quotes Flugge in *Ztschr. f. Hyg. u. Infectionskrankh.*, for July 1894, as saying that the bacilli causative of diphtheria perish when dried and converted into fine air-borne dust. Accordingly the danger of the infection being carried through the air is minimal. It is by direct contact that most harm results. Inanimate objects keep the contagion alive. In moist climates it survives better than in dry regions. If soiled clothes are kept in closed containers or in cellars, the germs there have a good chance to live and do harm.

Overcrowding and lack of personal cleanliness assist in spreading the disease. Common use of the same unclean spoons, dishes, etc., Decomposing filth piles (as such) and sewer gas are not causes. Houses where it has occurred are not so much to be feared as are the people who are unclean and careless.

"Wright and Emerson examined the dust upon the floor of the diphtheria pavilion of the Boston City Hospital and upon the clothing and persons of the attendants, to determine if the bacilli were present. Four cultures were made from the floor sweepings, and in only one did the examination reveal the presence of the Löffler bacillus, although other bacteria were present. In four examinations of the dust adherent to the shoes of the attendants, three showed the presence of the Löffler bacillus with other bacteria. Cultures were made from the hair of the attendants in four cases, with positive results in one. Examination of the margins of the dresses of the attendants, of the bed-clothes, shirts and finger nails of the patients were negative as regards bacilli, as was also the examination of the air of the pavilion. In two of the five examinations in which bacilli were found their virulence was slight." [4]

"The inhalation of sewer-gas wherever diphtheria prevails has been regarded as a common cause of this disease. For this reason the following investigations relating to the nature of sewer gas are instructive and important. J. Parry Laws presented to the main drainage committee of the London County Council the results of his investigations on the composition of sewer gas. His examination as well as those previously made by Carnelly and Haldane, showed that the air of sewers was much better than might have been expected. . . The number of microörganisms was less in the sewer air than in the outside air at the same time. . . Moreover, the sewer air contained a much smaller number of microörganisms than the air examined in domiciles. Laws found that the microorganisms of sewer air are related to the microörganisms of the air outside, and not to those in the sewage. . . He also found that a considerable increase in the velocity of the air currents did not increase the number of microörganisms found in the sewer air, and that the results of experiments were the same in small as in large sewers, and led to the belief that all microörganisms in sewage air are non-pathogenic." [5]

It is not necessary to unduly lengthen this paper with additional quotations. Admit that they are selected with the purpose of an advocate to further his plea and that other opinons are suppressed; enough is given to show some physicians of good repute, when addressing the profession, do not positively state that diphtheria is usually spread by means of atmospheric dust and should be classed in this respect, as an air-borne disease, with smallpox; that it seems to arise from emanations in putrid privies and cess-pools; or that it is a water-borne disease. And to the degree that such things are asserted beyond the proven knowledge and in an opposite direction to the trend of investigation, by so much is a needless dread aroused and the public peace disturbed.

One can easily see why this is done and suggest excuses for it. The burden of responsibility placed upon the health officer who has any fellow feeling for mankind is so great that he naturally prefers to take ten needless precautions than to run the risk of omitting to take one that is necessary. He fears that the teaching of the biologist and clinician may not include the whole truth and, while he makes use of their teachings, he does not, on that account, entirely neglect other sources of information and adds, it may be, that other knowledge whose fountain is said to lie with elderly ladies; for fear he may make a mistake. In much of this, I fear, he brings sanitation into disrepute and prevents the public support that it would

[1] Osler: Practice of Medicine, First Edition. [2] Ibid. [3] U. O. B. Wingate, JOURNAL AMERICAN MEDICAL ASSOCIATION, Nov. 24, 1894. In a paper read before this Section at San Francisco.

[4] Sajous Annual, 1895, vol. I, p. 4. [5] Ibid, p. 6.

otherwise receive, and fails to produce in the public mind that confidence which should always manifest itself.

Sanitarians are not alone among physicians in their methods of mingling science and sentiment. The history of medicine displays a grand march of hobbies and hobby riders. Just now our steeds are agriculturally inclined; we are in the midst of a time of weed-killing. The farmers in the region about my home have their fields at times invaded by sorrel (oxalis stricta), but they never think of entering upon a campaign of pulling them out root and branch. No! they sprinkle the ground thoroughly with air slaked lime and change the character of the soil; then the weed can not grow. In our anxiety to kill the weeds we suggest, in effect, that every one of us who may suffer from a slight coryza should carry a a bale of pocket-handkerchiefs and a package of paper bags (preferably of waxed-paper) and, presumably, a grip-sack; for even the capacity of a small boy's pockets would not be equal to the emergency were the cold a brisk one. If you have ever had any experience with "hay-fever" you will be able to testify of the added burden that this would be to those already heavily laden. At the same time, so little attention is paid to the soil factor, with suggestions along the line of hope and not despair. I am glad to note that a paper on this side of the subject was presented at the last meeting of the American Public Health Association; may it be the harbinger of a renaissance.

But, shall we cry "peace, peace, when there is no peace?" Assuredly not! Let our efforts not be for calming into false security but rather into that state of mind that prevents a panic. Let us be scientific in all our processes, and it is scientific to admit a lack of knowledge when such lack exists. If we have become convinced of the truth of any supposed fact in medicine, let us act honestly by its teachings, laying aside all that is contrary. If we are convinced that typhoid fever is a water borne disease, and rarely, if at all communicated by contact, why insist that the dead be wrapped in a bichlorid sheet or object to the transportation by rail for burial? Our train robbers and train wreckers, however vicious and debased, are not cannibals; and the risk of an accident whereby the body will be precipitated into a source of water supply of any community is so remote that the most painstaking need not consider it. Let us be honest in our presentation of sanitary statements. President Lincoln's suggestion about the ability and inability of fooling the people is so trite that it need not be quoted; but it is true.

Let us be more vigilant than ever; pressing reform, acknowledging error, seeking to educate, striving to prevent. But science, not dogma; deductions not presumptions nor assumptions, only should pass current. Not only safety but peace of mind should be our aim. Let us strive rather to increase our efficiency, and in striving remember that efficiency is never measured by the manifest exertion or parade in its execution.

DISCUSSION.

DR. COCHRAN—I think the health authorities in various cities have put themselves to much useless trouble to instruct the people by the leaflets and circulars they send around. In Alabama we do not try to teach our people hygiene. We do not send them leaflets about how to avoid diseases. We would send them pamphlets about treatment of disease. We tell them to send for a doctor, and when they want sanitary work done to send for a sanitarian. We do not try to make every man his own health officer. I have been struck with the extremes to which these health officers go.

The Doctor related an instance of three cases appearing at Stone's Bank, Ala. The physicians vaccinated the people, and there was never another case, but the people at a town fifty miles below went to the unnecessary trouble of quarantining against them, and invoking the aid of the service, after the danger is over.

DUTY OF THE PHYSICIAN TO THE PUBLIC.

Read by Title in the Section on State Medicine, at the Forty-seventh Annual Meeting of the American Medical Association, held at Atlanta, Ga., May 5-8, 1896.

BY JAMES W. COKENOWER, M.D.

SECRETARY IOWA STATE MEDICAL SOCIETY, AND PROFESSOR ORTHOPEDIC SURGERY, COLLEGE PHYSICIANS AND SURGEONS, DES MOINES, IOWA.

The tendency among modern medical writers has been to present a subject pertaining to some special branch of medical and surgical science and, especially, to ride some "hobby" or pet theme, wholly ignoring the more practical thoughts which come before us in everyday life.

It is the purpose of this paper to point out briefly some of these errors, and it will make no pretense to science, but endeavor to present such thoughts as come under the writer's observation almost daily, while engaged in a general practice. And, it seems to me, they are of sufficient importance to invite the attention of the entire medical fraternity. It is true that science, and advanced theories of medicine and surgery have done much, and no doubt will do more, and are not to be disparaged, but they have in the past, it seems to me, been prosecuted to the detriment of the more common and practical things. I have observed, daily, in the families, where I am called to practice, the amount of good which the physician might accomplish in teaching them how to live, how to ventilate their homes, and such other hygienic measures as would advance their physical, as well as mental and moral interests. And, not only this, but the ravages of hereditary diseases, which are annually apparently increasing in our land, seem to imperatively call for legislation with regard to the intermarriage of such people as are known to have such hereditary taints. However, since there are none, and since it does not appear to be practical, that a law can be made prohibiting the intermarriage of such persons, it occurs to me to be the duty of the physician to counsel and advise those who are under his observation of the dangers that lurk unseen within them, and, thereby if possible, cut short and limit the number of such cases.

Again, while there are laws prohibiting the physician from producing abortion, and which, I regret, is not as fully carried out as it should be, yet, perhaps, as nearly so as most of the laws not wholly a dead letter on our statute books, the writer's observation has been directed to another class of people aside from the physicians, and that is the women themselves. These counsel with no physician, or any one else, but do the work themselves and, if everything passes off smoothly, the physician is never consulted, but, in case they fear trouble, the physician is invited in to assist and, thus, bear the blame for whatever injury may have resulted.

And, so I might go on enumerating things wherein the physician, in his greed for science, wholly ignores the more practical things, thereby causing grief

throughout our land. It seems to me if the physicians would unite upon some means of extending their influence in the proper directions with regard to these facts, they could wield a great force, mold public opinion, and so instruct their patrons, which means the entire public, as to bring about a change that would be effective in the end and would be, in fact, more practical than any legislation upon the subject.

I have been endeavoring, in a quiet way, to manifest my influence in this direction with those whom I come in contact, and it is my opinion that a vast amount of good can be done in this way. And, whenever physicians unite in this one cause, and cease to ignore simple things, things apparently of not sufficient value to give heed to; whenever they cease to ride their hobbies, and look at such a thing as the writer has endeavored to point out, then, and not till then, will the time come when there will be that change wrought upon the public that will improve and advance the physical condition of the community in which this influence may have been exerted, and prove to the unsuspecting public that there is no class of men who have more to do with the confidence, and are better able to mold public opinion than the physicians, when they work in harmony and manifest their influence.

ON HEALTH DEPARTMENTS OF LARGE CITIES AND THEIR ORGANIZATION.

Read by title in the Section on State Medicine, at the Forty-seventh Annual Meeting of the American Medical Association, at Atlanta, Ga., May 5-8, 1896.

BY JOHN B. HAMILTON, M.D., LL.D.

CHICAGO.

SURGEON, FORMERLY SUPERVISING SURGEON-GENERAL U. S. MARINE-HOSPITAL SERVICE; MEMBRE HONORAIRE SOCIETE D'HYGIENE, PARIS, FRANCE; MEMBER AMERICAN PUBLIC HEALTH ASSOCIATION; CONSULTING HYGIENIST CITY OF CHICAGO.

The progress of sanitary science, and the increase of knowledge among sanitarians, is one thing; the putting in practice of that information, is another. All science is concerned with the former; the State, the Government and the people, with the latter.

Our cities have grown so fast that the problems which confront them of civic administration, have not been dealt with as if they had come gradually on a community prepared by long years of dwelling together, to meet them; and so in our great cities we find great advances in certain directions, and we find ourselves very far behind the age in others.

Among the unsettled problems in large cities is that of the best means of securing a perfect sanitary organization, and in the securing of that result, we are more or less hampered by the laws which have been enacted in the village before it became a town, and the ordinances of the town before it became a city, all of them more or less changed by acts of the State Legislature in which the city is situated. It therefore follows that in most cases, it is better to create these sanitary organizations of our large cities by legislative enactments rather than by municipal ordinances, because in many cases the city charter will be infringed upon or violated in some of its provisions by the adoption of certain salutary regulations, or prevent their adoption.

I recently had occasion to make a report to the Mayor of the City of Chicago, providing for a sanitary organization which would meet the exigencies of the existing law of that place, and at the same time create a new department on a basis that would provide for proper scientific work, in the interest as well of promoting sanitary science generally as in that of the health of the people of that city alone; in other words, to draft a plan for the organization of a model Health Department.

In drafting this organization, I was struck by the fact that in this country there can be only two systems of sanitary administration, and these systems are radically different; the one is an enlargement of the old town meeting plan, whereby the select men of a town meet at stated intervals and adopt regulations in which there is no individual responsibility either on the part of the select men themselves, or the person who has to execute them. The other system is the military one, in which every person is held responsible, from the commanding officer down to the private; each for the division of labor assigned to him. When responsibility is thus fixed, we insure better administration, because the results are always apparent. A person responsible for a bad result can be properly dealt with and removed from his position, to enable his place to be supplied by some one judged more competent.

In the city mentioned, the occupancy of a position of health officer by a layman, without knowledge of chemistry, engineering, sanitary science, or any part of medical education, made it necessary to provide for his retention in the act; although in my judgment such positions can not be filled with credit to the incumbent, or with safety to the public, by any person, however able he may be, until after some training in the fundamental branches of the education of a health officer, and I feel obliged to say to the Section that, in my opinion, whatever measure of success has since been achieved by the health department named, it has been done by reason of the advice of the Board of Health, and the advice and experience of the trained Assistant Commissioner of Health, our colleague, Dr. Frank W. Reilly, who, during the present administration has guided the sanitary affairs of the department, practically unhampered by his titular lay chief. I do not doubt that any layman by close application to study and honest attention to his duties, may in time become thoroughly informed in hygienic matters, but in such case the education is acquired at the expense of the city, and without adequate compensation to the public.

I herewith present to the Section a revised draft of an ordinance, which in my judgment, is best adapted to meet the requirements of a health department of a large city:

AN ORDINANCE TO REORGANIZE THE DEPARTMENT OF HEALTH.

Be it ordained by the City Council of the City of ————: There is hereby established in the municipal government of the city of ——— an executive department to be known as the Department of Health.

Appointments—General Provision.

SECTION 1. No person shall be appointed to any office or position in the said Department, until proper inquiry shall be made by examination, or otherwise, into the ability and fitness of such person to perform the duty that may be required of him, should he be appointed.

Removals—General Provision.

SEC. 2. No officer or employe of this Department shall be removed except for cause and no person shall be appointed, promoted or removed for any political reason. Any officer or employe may be removed for crime, malfeasance, habitual neglect of duty, willful misconduct, insubordination, disobedience of orders, incompetence or insanity, and for no other cause.

Officers and Employes shall not accept Gifts or Bribes.

SEC. 3. Any officer, inspector or member of the Sanitary or

Ambulance Corps who shall accept any gift of money or other valuable thing for reporting or not reporting the existence of any nuisance or case of contagious or infectious disease, shall upon proof thereof be dismissed by the Sanitary Director, and shall in addition be subject to such other penalty as the ordinance may prescribe.

Enumeration of Officers and Employes.

SEC. 4. The Department of Health shall hereafter consist of the following officers and employes to-wit: a Sanitary Director; an Assistant Sanitary Director; a City Physician; Chief Clerk; a Sanitary Captain; a City Chemist; Medical Inspectors; a Sanitary Corps; Clerks and Interpreter.

Sanitary Director—General Qualifications.

SEC. 5. The Sanitary Director shall be a physician of not less than ten years' practice and shall be skilled in sanitary science. He shall be appointed by the Mayor, by and with the advice and consent of the Council. He shall hold his office until his successor shall have been appointed and qualified.

Duties of Sanitary Director.

SEC 6. The Sanitary Director shall supervise all matters connected with the sanitary interests of the city, and shall perform such specific duties as may be defined in this ordinance, and he shall have authority over all officers and employes in said Department. And when at any time it shall become necessary to establish sea, lake or land quarantine, he shall have command of such quarantine. He shall according to circumstances and season, issue such circulars of popular instruction as shall lead to the preservation of the public health.

Assistant Sanitary Director—Qualifications.

SEC. 7. The Assistant Sanitary Director shall be a physician of not less than ten years' practice, and shall be skilled in sanitary science. He shall upon recommendation of the Sanitary Director, be appointed by the Mayor, by and with the advice and consent of the Council, and shall hold the office until his successor shall have been qualified and confirmed.

Duties.

He shall perform such duties as may be assigned him by the Sanitary Director. In case of the sickness, disability or prolonged absence of the Sanitary Director, he shall by direction of the Mayor, act in the stead and perform the duties of the Sanitary Director.

City Physician—Qualifications.

SEC. 8. The City Physician shall be a physician of not less than ten years' practice in the State of ———, of which not less than five shall have been in the City of ———. He shall be appointed by the Mayor, by and with the advice and consent of the Council. He shall appoint a physician as City Pathologist, who shall, under his direction, make such post mortem examinations of animals or men as may be required by the Sanitary Director, to whom his report must be sent by the said City Physician.

Duties.

He shall supervise the administration of the hospitals established by the city, including hospitals for contagious diseases, excepting quarantine hospitals. He shall prepare regulations for the government of police surgeons, ambulance physicians, resident physicians and superintendents of the city hospitals and the pathologist in the performance of their duties and shall have immediate supervision of the city ambulance service, when established. He shall attend or cause an assistant to attend the sick in the city workhouse, calaboose, watchhouse, police stations or houses of correction, and shall attend such meetings as may be held by the Department of Health, and in case of epidemic, he shall render such assistance and coöperation, and perform such duties in connection therewith as the Sanitary Director may require.

Chief Clerk.

SEC. 9. The Chief Clerk of the Health Department shall be skilled in business affairs and statistics and shall be appointed by the Mayor, by and with the advice and consent of the Council.

Duties.

He shall have supervision over all clerks of the Department except as hereinafter provided; and shall have charge of all accounts. He shall keep an accurate record of all receipts and expenditures and shall be responsible for all fees received. He shall keep the records of births, marriages and deaths, and issue burial permits under regulations to be made by the Sanitary Director. He shall disburse all monies, pay all officers and employes, make all purchases of supplies, and execute all contracts and bonds, but he shall make no purchase of sanitary or special appliances without the approval of the Sanitary Director.

Sanitary Captain.

SEC. 10. The Sanitary Captain shall be a person accustomed to superintendence of workmen, and qualified to keep records. He shall be appointed by the Mayor on the recommendation of the Sanitary Director, and shall have the rank and pay of a Captain of Police.

Duties.

He shall be the custodian, and have charge of the storehouse of the Department with all property belonging thereto, including horses, wagons, carts, ambulances, fumigating apparatus and sanitary appliances of every kind belonging to the Department, and shall make a semi-annual return thereof to the Chief Clerk. The return shall show from whom the property was purchased or received, to whom issued, and the present condition thereof. No property of any kind shall be issued to any person except upon requisition duly approved by the Sanitary Director, Assistant Sanitary Director, City Physician or Chemist as may be required. He shall have charge of the Sanitary Corps, and under the department regulations, supervise the work.

Chemist—Qualifications.

SEC. 11. The Chemist shall be a graduate in medicine, skilled in chemistry, pharmacy and bacteriology. He shall be appointed by the Mayor on the recommendation of the Sanitary Director. He shall have an assistant, who shall be City Bacteriologist, and who shall be nominated by the Sanitary Director and appointed by the Mayor.

Duties.

His duties shall be to have charge of the laboratory, and to direct the conduct of such chemic and bacteriologic investigations as he may from time to time be instructed to make by the Sanitary Director, to make test investigations of food products, milk, water, ice, beverages and drugs, and to make report thereof to the Sanitary Director.

Medical Inspectors.

SEC. 12. The Medical Inspectors shall be appointed by the Mayor on the recommendation of the Sanitary Director, but no person will be appointed Medical Inspector until after such examination as shall satisfy the Sanitary Director that the applicant is fully informed in the principles of sanitary science.

Qualifications.

Physicians holding the collegiate degree of Doctor in State Medicine, or its equivalent, will not be required to pass such examination.

Chief Inspector.

One of the said Medical Inspectors shall be specially skilled in the diagnosis of the exanthematous and contagious diseases, and shall be designated as Chief Medical Inspector.

SEC. 13. Medical inspectors, except the Chief Medical Inspector, will perform such service as may be required of them from time to time, and they shall be paid according to the service actually performed, on a schedule of pay to be prepared by the Sanitary Director and approved by the Mayor.

Sanitary Corps.

SEC. 14. The Sanitary Corps will consist of three divisions, viz., *first*, those employed in the division of the City Physician as litter bearers, ambulance drivers and hospital attendants; *second*, milk, meat, food and other inspectors employed in the chemist's division; *third*, plumbing inspectors, fumigators, and persons employed in the work of placarding infected premises, and disinfection of the same, acting under the Sanitary Captain.

Uniform to be Worn.

SEC. 15. All members of the Sanitary Corps shall wear the uniform of their grade, and shall receive such monthly compensation as the Mayor may by order promulgate, as equitable for the services respectively performed by each class.

Clerks and Interpreter.

SEC. 16. There shall be employed in the Department of Health ——— clerks, who shall be appointed after due examination into their fitness for such position, and they shall be assigned to such duty as the Sanitary Director may designate, and the Sanitary Director is hereby authorized to employ one person as stenographer and clerk to serve under his immediate direction, and one person as interpreter and translator. No person shall be employed as translator who can not read correctly and converse in five modern languages to be designated by the Sanitary Director.

Repeal Provisions.

SEC. 17. So much of any and all previous ordinances as conflict

with or in any way impair the operation of this ordinance are hereby repealed, and all provisions of law and ordinances relating to the Department of Health, the Commissioner of Health, the City Physician, the inspection of food, milk, ice and drugs, and miscellaneous ordinances relating to health, shall, so far as they may be applicable, remain of full force and effect.

I will now take the bill up by sections for the purpose of explanation. Sections 1, 2 and 3 are, in my opinion, necessary to secure the perfect working of the officers and employes of the department. Indeed it will be found impossible to secure the appointment of proper persons unless the tenure of office be made more secure than has been the case under previous ordinances. Moreover, it is such as to bring the department in line with the civil service laws of the State and of the United States. I had charge of a Bureau of the Treasury Department when the present civil service law was enacted, and I am entirely familiar with its operations. Some passages in this ordinance will be recognized as quoted directly from that law.

Sections 4, 5, 6 and 7 are self-explanatory, and relate to the different classes of officers, and especially to the qualifications and appointments of the Sanitary Director and Assistant Sanitary Director.

Section 8, relating to the City Physician, after giving the qualifications, makes specific mention of his duties.

Section 10, providing for a Sanitary Captain, is self-explanatory. It must be obvious that some one must be had to account for the property owned by the Department, to have charge of the same, and to superintend and to direct the outdoor work. This section is not only calculated to protect the interests of the city, but to prevent misuse or misapplication of any property or appliance belonging to the Department.

Sections 11 and 12 relate to the appointment of a City Chemist and a Medical Inspector, which are self-explanatory, except that definite qualifications are provided for. The system of examination of medical inspectors, as preliminary to appointment, as proposed in this ordinance, should by all means be adopted at the earliest possible moment, as the appointment of persons through motives of friendship or political association fails to secure that standard of professional qualification that a great city should always be able to command.

The adoption of an ordinance or law like this provides the skeleton organization; as will be seen, it provides for indefinite expansion by increasing the number of persons employed, when the necessity for so doing may arise; it provides for extraordinary powers in case of epidemic; and more than all, a unity of system is provided and responsibility fixed.

As all cities have an Engineer Department, City Engineer or Department of Public Works, it is not deemed necessary to provide specifically for that coöperation which may be always secured by the comity necessarily existing between different departments of the same administration. Should that fail the Mayor as chief executive can always settle the matter by special order.

The *details* of executive work, the *regulations* governing the special office and the Department, are by this organic act left to be framed by the Sanitary Director to suit the particular city. But in no case need they conflict with the organic law, which, as will be seen, is sufficiently broad to allow the framing of all necessary regulations.

NOTE.—The essential features of this draft were commented upon with approval by the distinguished editor of the *Journal d'Hygiène* of Paris, and a translation formally presented to the Société d'Hygiène.

THE METHODS OF DRAINAGE NOW PREVAILING IN SOME OF OUR EASTERN SEABOARD MUNICIPALITIES, TENDING TO THE PRODUCTION AND DISSEMINATION OF DISEASE.

Read in the Section on State Medicine, at the Forty-seventh Annual Meeting of the American Medical Association, held at Atlanta, Ga., May 5-8, 1896.

BY AUGUSTUS P. CLARKE, A.M., M.D.
CAMBRIDGE, MASS.

Crudely constructed latrines and cesspools, without connections with regularly laid drains, were the devices which often obtained among the early inhabitants of the country; they were places for receiving the waste water and the dejecta of occupants of houses and other buildings, and were for the most part recommended merely for the convenience they afforded. The method which these contrivances furnished for disposing of refuse liquids and excrementitious elements worked no serious manifest injury unless some of the more deleterious products had gained, by percolating through the surrounding soil, admission into a well or other source of water to be used for domestic purposes. Among the more dangerous products of this class have been those derived from the albuminoids and the nitrates, and from carriers of some of the forms of bacteria that were capable of giving rise to diseases that have been regarded as of a zymotic character. The development of morbid conditions from such sources in sparsely inhabited districts has not been of common occurrence, from the fact that the free ventilation which takes place through the open vaults, and also the diluting action of water from the frequent storms, have had a counteracting effect upon the potency of the bacterial agents, and have thus rendered immunity to persons not particularly susceptible to influences of such disease factors.

As these places became more densely populated, there were also built, in connection with the receptacles, different forms of drains, into which the fluid and the less solid portions of the waste matter were discharged. Beyond this measure of dealing no very definite plan at first for the disposing of sewage was maintained, and so the contents of the drain were disembogued into a stream or water-course that perchance could be found in the vicinity. When the discharge was made into rivers whose courses had a steep and rapid descent, very little seemingly ill effects were experienced by those who dwelt above the point of the inlet. Those who dwelt along the river banks or in the valleys below were not always so fortunate, especially when they found it necessary to take from the river in that vicinity their water supply.

Water of large streams, if charged with deleterious products, will not after flowing several miles become wholly innocuous and be safe for drinking purposes. The tenacity of life possessed by certain bacterial elements will not be overcome by such an inadequate exposure. In this connection it is but just to remark that it is not so much the negative testimony of the chemist and the microscopist that insures safety in the choice of the drinking water, as it is that there exist no possible sources of contamination.

Many of our larger cities have already inaugurated measures for taking water where the unhealthful influences have been reduced to the minimum. Unfortunately, however, this freedom from contamination does not prevail in the majority of municipalities. Among the more prominent objectionable features of the present methods of drainage for municipalities is that of discharging large quantities of refuse matter into sewers which are connected, either directly or indirectly, with rivers that receive tide-water. The people dwelling in the less densely populated portions of a city or town where a good-sized sewer has its outlet into the river through a gate that opens and closes with the ebb and flow of the tide may not, perhaps, suffer to any great extent in availing themselves of the use of such a drain. A long open drain, however, connecting at one end with residences and at the other with tide gates to allow its vile contents to be discharged so as to be exposed to the rays of a summer's sun, and to have its evaporations wafted back through the long conduit by the counter-currents of air set up, and drawn back to the homes of the occupants, presents features that are far from being conducive to health.

A still more dangerous factor results even after the closure of the gates from the oncoming tide, by the rapid filling up of the sewer from the numberless drain pipes that are directly connected with the government drain; this arrangement tends to displace the air laden with poison or pathogenic organisms, and force it back toward the house connections with the sewer. When the pressure that produces this reflux is moderate, the effect may be overcome by the water in the closet traps, but during the time when there is much storm water to be carried off the pressure becomes inordinate, and thus forces not only the mephitic air, but causes a reflux of the filthy water; this may pass through the traps that are lower down, and in some instances also through those placed as high as the street level. This has been particularly noticed when great storms have been raging. The numerous conductors extending from the many high buildings in the neighborhood to these sewers tend to force, in accordance with a well-known law in physics, the water up through the house drains above the normal level, and thus to flood the basements and cellars with water and sewage that have been collecting in the drain during the storms and while the tide gates were closed.

This unhealthful condition of things has gradually increased since the custom of building large apartment houses and of other high structures has obtained. To show the inadequacy of the sewers or the drain traps employed for preventing the reflux when the sewer is being filled by the accumulation of storm water flowing from the conductors of high buildings and from the street catch basins during the closure of a tide gate, a drain pipe connected with a sewer leading to a house whose basement had been flooded by a regurgitation of storm water through the bowls, on being opened to determine its condition, a jet of water like a geyser spouted up several feet into the air, and continued thus to flow until the drains had been relieved of their excessive pressure.

The objectionable features arising from such a defective method of drainage have been sought to be overcome by the construction, at an enormous expense, of what has been designated as the "metropolitan sewer," for the accommodation of the inhabitants of Boston and of other municipalities within a certain radius. The benefits to be derived by the laying of this drain are not altogether what was generally anticipated, for the reason that the sewer is not of sufficient capacity for receiving and carrying off in a proper manner the storm water, in addition to the sewage it has to take in. The sewer has been built out some distance into Boston harbor, where the contents are discharged by means of large pumps into the deep water, that they may be borne out with the tide into the sea.

The object of the expedients adopted or suggested by the engineers of the cities that have been interested in the construction of the work, is that the storm water entering the great sewer may by an automatic device escape into the local sewers, and so pass into the Charles River or other water-courses with which they may be connected. It requires but little reflection for any one to comprehend the fact that more or less actual sewage will still be carried along with the storm waters into the river, and that the cessation of contamination of our natural water-courses by the carrying into them of drainage material will only be accomplished theoretically and not in real practice. Again, the storm water can be discharged by the devices above mentioned from the local sewers into the rivers only at ebb tide and while the gates are open. At other times the entering waters coming from the heavy rains will not all pass on, and when the sewers become overcharged will take a backward flow into the estates embraced within the lower sections of the district, as has so often occurred by the operation of the old system of drainage, with this difference, perhaps, that the new method, as the sections become more crowded, will nevertheless give rise to a greater reflux of the sewer contents.

It should be stated that some twenty years ago or more, statutes by the State government were passed, requiring certain lands below thirteen feet above mean low water mark to be raised to grade. The difficulties that are now being experienced are not, however, confined to such districts that have been filled, but are met with to some extent in places that are of a higher grade. It is too bad that after the enormous outlay of money that has been made by the inhabitants, and the annoyances and vexations experienced, beside the expenditure for the construction of sewers, so little of real permanent value has been achieved. This result is not dissimilar to the experiences of other State governments when they have attempted to accomplish any great, new and lasting benefit.

In order to overcome the unhealthful features incident to the working of the present system of drainage, special sewers for carrying off the storm water should be laid. Into these should pass all the water from roofs, gutters or conductors upon buildings, and the storm water of the streets after it has been well filtered through catch basins to deprive it of its more solid portions. These water conduits should be laid so deep that the water in the cellar and foundation wall trenches for some inches below the deepest portion of a cellar bottom may readily flow into them, to be carried off to the rivers or other depths of natural water channels.

In cases of tidal rivers there should be for the most part no tide gates; deep basins should be constructed for receiving such waters, that, after being filtered, could be discharged, by means of a pumping station, into the river. For times of great drought these

waters could be stored in receiving basins and could be used for the extinguishing of fires and for other purposes in cases of emergency.

The State Board of Health has already recommended that some independent system of sewerage should be employed for the disposition of storm waters. For one particular part of our city our mayor has given some encouragement that he would manifest his official influence for the construction of a sewer for the greater relief of water coming during the heavy storms. No definite experiments as yet have been instituted for determining the feasibility of carrying out the plan here proposed, but it is evident that something more radical than what has heretofore been attempted will have to be undertaken for the insuring of permanent relief and healthfulness in our municipalities.

Until there are adopted plans for drainage founded on more scientific principles than those still prevailing, we can not expect to achieve any great results in diminishing the occurrence of many forms of disease. We may raise the standard of our medical colleges and our universities, may improve our methods in pharmacy, extend the list of articles and remedial agents in our materia medica, and develop to the highest degree our surgical technique, but these promising helps will still be found capable of relieving only a mere moiety of the sum total of the suffering from disease, so long as occupants of dwellings continue to be exposed to the increasing dangers of overcrowding that is everywhere now taking place.

A DEPARTMENT OF HEALTH, OR A BUREAU: WHICH?

Read in the Section on State Medicine, at the Forty-seventh Annual Meeting of the American Medical Association at Atlanta, Georgia, May 5-8, 1896.

BY S. S. HERRICK, M.D.

SAN FRANCISCO.

It is assumed that the AMERICAN MEDICAL ASSOCIATION substantially agree that the time has come for some permanent branch of our national government to promote and administer the interests of public health. There is, however, a variety of plans of organization, each of which has its merits and defects, the most prominent of which may be designated a board of health, a department, a bureau, and the continuance of the present method as administered by the Marine-Hospital Service.

The plan of a board of health has been tried, with such want of success that, in my opinion, it would be unwise to experiment again. It is needless now to consider where the fault chiefly lay; and there are too many yet living and active, who participated in the controversy, safely to risk the danger of its revival. The plan most favored by the AMERICAN MEDICAL ASSOCIATION has been to create a department of public health, presided over by a secretary holding a seat in the President's Cabinet. Its conspicuous aim is to magnify the importance of public health and extract a large appropriation from the treasury. Without detracting from the value of health as one of the enjoyments of life, we must not overlook the fact that other great interests are clamoring for recognition *and an appropriation*. The agriculturists, who now number approximately 9,000,000 of our population, have recently secured a separate department. It may be expected that those engaged in manufacturing and mining (about 5,000,000) will soon demand like consideration, and that they will be followed in due time by the trade and transportation interest (numbering about 2,500,000). The two latter are already anticipated by the sanitary interest, which may be represented by about 100,000. Roughly speaking, this number is now classed in the medical ranks (regular, irregular and defective), and I think it would be fair to deduct, as not being interested in sanitation, quite as many as should be added to those so interested from the laity. Teachers and scientists (representing the educational interest) now number approximately 300,000, or three times as many as the sanitarians. In 1867, the Bureau of Education was created by act of Congress, and it has done excellent work ever since. So far as I have learned, both the public and educators are satisfied with their modest organization, though, doubtless, they would like more money.

In 1885 the present writer, recognizing the excellent work done by the Bureau of Education, being deeply impressed with the need of a national sanitary service and at the same time warned by the troubles which had befallen the National Board of Health, formulated a plan for a bureau of health, which was approved by the American Public Health Association. Under its auspices a bill for this purpose was framed and introduced in Congress. It would serve no useful purpose here to dwell upon the reasons of its failure. In substance the proposed functions of the bureau were the following:

1. To gather information upon the state of the public health and the existence of contagious disease in foreign countries through the consulates of the United States government; to digest and communicate the same to all government posts and health authorities of our country; through medical officers attached to the consulates, when requested by the masters of vessels destined for ports of the United States, to inspect the vessels, cargoes, crews and passengers (including their personal effects), to use measures for cleansing and disinfection, and to vaccinate those requiring vaccination (all at the expense of the vessel), to furnish bills of health relative to the port of departure and full dealing with the vessel, or to notify the bureau by telegraph of neglect or refusal to accept such service.

2. To serve as a medium of intelligence in sanitary matters, including vital statistics, between health authorities throughout the United States, by means of a weekly publication, which would contain also foreign intelligence.

3. To inspect the various quarantine stations of the United States from time to time; to investigate outbreaks of pestilential disease in any part of the Union; to report such inspections and investigations; to recommend to local health authorities needed preventive and suppressive measures.

4. To conduct chemic, physiologic and pathologic investigations in the interest of sanitation.

5. To publish and distribute documents relative to public health.

It was contemplated to authorize the bureau to require the detail of suitable medical officers from the Army, Navy and Marine-Hospital Service for carrying out its functions at home and abroad. This would be a measure of economy and also a safeguard against political intermeddling. At that time it was not thought wise to give the bureau powers in quarantine matters, but it is now probable that there

would be little or no opposition to some exercise of authority, when needed, in international or inter-State quarantine. I am satisfied that a bureau organized on some such plan would fully meet all requirements of sanitation and could be enlarged so as to keep pace with the growth of the country quite as well as the Bureau of Education. Those who believe that the right way to gain the earth is to go for the whole solar system, may naturally suppose that the best way to obtain from Congress a bureau is to ask for a department. This is a matter of opinion, which I forbear to discuss. There is, however, a choice between a department and a bureau which, to my mind, vitally concerns the utility of the service. The secretary of public health would be a political officer, appointed for four years, and his subordinates would also belong to the same party. The one important qualification for office would be partisan services rendered during the preceding campaign. Those who are conversant with the customary methods of securing positions in State and municipal sanitary service in our country need no explanation of what might be expected. Now, the question is: Does the AMERICAN MEDICAL ASSOCIATION, claiming to represent the most numerous body of scientific men in our country, stand ready to commit the interests of preventive medicine to that class of adventurers who have control, for the time being, of the national political machine? If such be its deliberate choice, then I beg to recall Æsop's fable of the frogs who asked Jupiter for a king. At first he gave them a log (likened to a national board of health), which they sat upon in scorn, until it sunk out of sight; then they asked for another, and he sent them a stork (likened to a cabinet officer), which devoured them without mercy.

On the other hand, if the choice be some plan which will put our health interests out of politics, then I advise a bureau of health modeled after the Bureau of Education, in which a commissioner may hold office under successive administrations. Let his subordinates be drawn, as far as practicable, from the three national bodies of medical offices, detailed for the special qualifications which they have shown by their works. Already the Surgeon-General of the Army has organized a school, in which medical officers receive special instruction in hygiene, and the Navy and Marine-Hospital Services will not long delay in following the example. Perhaps in time State and municipal boards of health may be authorized and feel disposed to ask the detail of officers from these corps to serve as experts in sanitary work, and thus the whole country may see their health interests emancipated from politics.

The last proposition, that of leaving national sanitation with the Marine-Hospital Service, seems not to meet the wishes of the medical profession at large, though, to my knowledge, the reason has not been openly declared. The most obvious explanation is, that this plan does not satisfy the aspirations of an army of patriots anxious to serve their country. If we must choose between a department of health and the present system, in my judgment, the change would involve great additional expense with a strong probability of poorer service. On the whole, I find no valid reason to change the views held on this subject since 1885.

Let us have a Department of Public Health!

ARGUMENTS FAVORING A DEPARTMENT OF PUBLIC HEALTH.

Read in the Section on State Medicine, at the Forty-seventh Annual Meeting of the American Medical Association, held at Atlanta, Ga., May 5-8, 1896.

BY LISTON H. MONTGOMERY, M.D.

CHICAGO, ILL.

Some of you perhaps may have views and ideas that are not entirely in accord with those of the writer. It is natural to suppose that some of us have hobbies or fads in medicine in general, the science of hygiene, or upon some branch of scientic study or research.

Emerson said, "Science surpasses the old miracles of mythology." It is with pardonable pride therefore that I offer this contribution and venture to briefly discuss this important subject, which as it appears to me, is one of the *most pressing needs of legislation that confronts us* and which our government can bestow and by so doing promote the welfare of the people of the United States.

It is a well known fact that by the acts of our National legislators during the past few years hundreds of thousands of dollars have been appropriated and expended for agricultural pursuits including that of saving the cattle and other stock products that belong especially and distinctively to the farming interests of our country, and which we as sanitarians most heartily commend. But have you considered the proposition that during the professional career of thousands of members in our profession, not one dime has been appropriated for public health matters, to save or prolong the lives of human beings, and while our Marine Hospital Service has its duties to perform, it is nevertheless very circumscribed in character, and can render very little public service to the people inland, when cholera for instance, or any other disease from a foreign country invades our shores, as was the case when this dreaded malady threatened New York city during the summer of 1892 and the year following. The disease was stamped out, or more properly speaking, what was supposed to be cholera was prevented from making inroads to the interior by the State's laws.

But we are reminded that New York State, and the City of New York has facilities for caring for an epidemic which very few other States possess.

That the United States is constantly exposed to the importation of disease from foreign countries, and subject because of the facility and rapidity of interstate transit to the rapid spread of infection and deadly germ infection of almost any city or town, is to the writer's mind something that ought not longer be tolerated by the patient people of this country.

While Philadelphia, Baltimore, Boston, New Orleans, Portland, San Francisco and our sister city Quebec, may be sufficiently provided for in this respect, there are numerous other cities on the Atlantic, Gulf, and Pacific sea boards that are not as fortunate nor properly protected and equipped to bar out disease that has been imported should it gain a foothold.

I think this is particularly the case with our Southern sea board cities. That they are not sufficiently prepared to combat the ravages of pestilential diseases that may invade them from some foreign country is a well-known fact to the practical sanitarian everywhere. This fact, lamentable as it is, has, to say the least, one specific cause, the absence of a department of public health. On the other hand we are well aware that the efficient health officer of the city of Charleston,

S. C., and of other cities along the southeast Atlantic and Gulf coasts are as alert and equally efficient as health officials can be, but oftentimes they are hampered in doing thorough painstaking work toward suppressing a threatened endemic or epidemic.

What has our government done for the medical profession? Congress should do all in its power to advance the scientific interests of the medical profession and promote the welfare of the people of this country. Has this been done? Governmental aid in this respect is not lacking in several other countries with which we are in daily commercial intercourse. I believe the time has fully matured, and the importance to the public welfare in the matter of sanitation and health laws has arrived for our people to require, yea demand, that we are entitled to another branch of the Federal Government and portfolio to be known as the Department of Public Health with a medical secretary at its head, to be on the same plane or parity or dignity as is accorded to the other departments in the general administration of public affairs.

The consensus of opinion in this respect is widespread as will be noted by the following illustrations. This subject, to quote as near as I can recall them the words of the late Prof. C. G. Comegys, "Is not for the promotion, welfare, or aggrandizement of the medical profession," but for *the welfare of the people* of a united country, the fairest the sun has ever shown upon, and to quote further from our late associate and worthy teacher, "Who is there that is more capable of judging of the welfare of our people, scientifically speaking, and I will add socially and morally than we who comprise the membership of this noble ASSOCIATION, representing as it does the hundred and twenty odd thousand physicians in the United States?

Why need our government wait for a threatened invasion or approach from Europe or other foreign land of some specific form of deadly germ or disease infection?

Why wait for the advent of smallpox from Mexico, or yellow fever from the Spanish colony or States of South America, or the arrival on our border of some poor indigent immigrant sick nigh unto death with some form of pestilential disease, or until the germs of an infectious or contagious character have already made their appearance?

But some wiseacre (not a member of our profession) will say: Oh well, these cases will be quarantined or the maritime quarantine system will take care of them, etc. Scarcely two weeks ago the utter failure of this method was demonstrated at the city of Baltimore, Md., when there arrived several hundred immigrants at that port who had been exposed to smallpox or varioloid on board the steamship that brought them. The poor sick immigrant was detained, but the balance were allowed to pass through and take up their abode at their place of destination, many of them within three days arriving at Chicago, Ill.

While the maritime quarantine service does very well indeed and is a most useful system so far as it goes, yet it has no control in the inland and its power of authority is limited. Its system does not include all the ways and means of carrying into effect efficient prophylactic measures on a thoroughly scientific basis as should be done by scientific preventive medicine and thorough bacteriologic investigation beyond the few cities enumerated above. This system has no authority to carry out the enforcement where necessary of sanitary regulations tending to prevent or abate the spread of epidemic or pestilential diseases beyond the seaport places it has found lodgment and where it may be equipped for this purpose.

At the Pan American Medical Congress, the first congress of this kind ever held in the United States, which convened in the city of Washington, D. C., in September 1893 under the auspices of our Government, this subject was critically and thoroughly discussed in all its phases, heartily concurred in, and reported in favor of such a Department, with a cabinet minister at its head.

The Chicago Medical Society having a membership now of upward of 750 members as early as the summer of 1884 at the instance of the writer had a committee appointed consisting of seven of the most able sanitarians of that city, including the Commissioner of Health to devise and formulate a plan to urge the importance of National legislation upon this subject.

The committee submitted its report in September following and it was unanimously adopted.

The American Public Health Association at several of its annual meetings has heartily and unanimously concurred in this measure, and has appointed its special committee to confer with a similar committee of this ASSOCIATION to devise the best ways and means toward establishing this *sine qua non*, and much is hoped for in this direction from this influential body at its coming meeting at Buffalo, N. Y., next September.

Various State, county, and municipal medical societies in a numbr of portions of the Union have within the past two or three years unanimously approved and adopted resolutions to this effect, and have heartily approved the bill now before Congress prepared by the special committee of this ASSOCIATION, to establish a department of public health.

STATE RIGHTS AND INTERFERENCE WITH STATE LAWS.

The possibility of interference with inter-state authority I think is a subject too mythical indeed to require discussion.

Section 2 of our bill provides for the coöperation of State and municipal health authorities, hence no obstacle can supervene in the matter of inter-state or municipal boards of health and all will be of the most harmonious advisory nature and unanimity in character, with the one main object in view, the advancement and improvement in the welfare of the American people, the prolongation of human life, the physical and mental development of our citizens, and I might go farther by saying, the evolution of the human race by the diffusion and promulgation of scientific facts and treatises compiled from the best literature prepared by the most thorough scientific painstaking sanitarians of our country, thus promoting the physical health of our people and a correspondingly cultured intellectuality.

The following questions have doubtless been proposed to some of you already: Is there a degenerative tendency in our advancing civilization, in these days of the new woman, hypnotism, bicycles, church affairs, etc., or is there a tendency for the rich of our Nation attaining a premature old age? Is insomnia, hypochondria, hysteria, dipsomania, suicide, insanity and cognate diseases including diseases of a tubercular nature on the increase?

I would answer in a general way. In certain geologic sections of our Union and among a certain class, most certainly this is true. We may ask our-

selves then, what is the cause of this vital or mental change?

The miscellaneous statistics on these and kindred subjects to which I have had access, imperfectly as they are collated, unmistakably prove this.

If the government could see its way to rise to the dignity of having a department of public health and a medical secretary a man of well known scientific attainments, as other nations have, statistics on this point could be made more reliable and valuable scientific accurate investigation could be carried on in a methodic manner from the center or fountain head.

In these days of specialism, the surgeon and the specialist receive for their professional services a fee which to my mind is greater and out of all proportion compared to that which the sanitarian or general practicing physician usually receives, or which he is justly entitled to.

While many of the ailments suffered by man are due to germs, morbid or toxic products or agents entering the system whether from food in any form, drinking water of polluted wells, rivers, lakes, etc., or germs of contagious nature, that enter the human economy through a wound, whether there be syphilitic, puerperal, tubercular, or sepsis due to other causes. The sanitarians of the medical profession in renewing their endeavors toward bringing about what this paper has for its object again manifest their unselfishness in exerting their influence in the matter of a department of public health.

What we do ask after this proposed branch of our government has been established, is that it shall have equal dignity and rank with other branches of the government, and the secretary be a member of the Cabinet. In order to carry out our undertaking to a successful conclusion we must do so intelligently. We must be public spirited and with earnest zeal enlist with renewed effort the united profession of our country.

The reports of the special committee appointed by the ASSOCIATION in 1891 has submitted its report annually since, viz., at Detroit in 1892, Milwaukee in 1893, San Francisco in 1894, one year ago at Baltimore. Each year its deliberations have been unanimously approved and adopted, all of which is very gratifying to the committee and tends to show that the committee is not, nor at any time has it been remiss in the performance of its duties.

But our ASSOCIATION and our profession must do something more than adopt resolutions, all of which are good enough in their way. We must encourage the profession everywhere, and by concerted action urge upon Congress the necessity of this measure. That the matter has been successfully carried on thus far I think no one will deny. But the profession must not become apathetic. If our Eastern confrères should hold different views, let us persuade them to unite with us, for, I am convinced after careful observation and study, that practically the entire western, middle and southern members of our profession are a unit and endorse the bill now before Congress which was prepared by the committee of the AMERICAN MEDICAL ASSOCIATION having this matter in charge.

With this strong force united, and our eastern professional friends with us, with renewed efforts on our part and the combined support of the medical journals and newspapers, shall we not be able to convince our friends in both branches of Congress of the necessity of this urgent and needed legislation, for certainly our opinions on this topic are equally as valuable to public welfare, hygeia, and health as are those who have views upon finance, the tariff, the judiciary, theologic and ecclesiastic affairs, etc. The profession is too modest to claim more than this.

In reviewing the Constitution of our country, submitted Sept. 17, 1787, and which went into effect in 1788, I find in the first or opening sentence the following lines:

"We, the people of the United States, in order to form a more perfect Union, establish justice, insure domestic tranquillity, provide for the common defense, promote the general welfare and secure the blessings of liberty to ourselves and our posterity, do ordain and establish this constitution for the United States of America," etc.

Mark the words in the above clause—"establish justice," "promote the general welfare," "secure the blessings of liberty to ourselves and our posterity."

Is not this a sufficiently meritorious reason as provided in our Constitution to secure that which will prove to be a blessing to ourselves and posterity? And if so, are we not several years behind the times in the matter of this proposed department?

Is not the well known and oft-quoted maxim which I will paraphrase, "*Salus populi suprema est lex*," a sufficient reason? Is it not sufficient to know that, for instance, where an epidemic of smallpox prevails, accurate information can not be obtained by neighboring States or municipal boards of health from the medical officer in charge, or commissioner of health regarding said epidemic by his refusal to promulgate information desired when requested to do so?

All the foregoing illustrations are facts and matters of history, and not hypothetical queries, specific instances of which can be furnished if needed. All of which prove that Congress is in duty bound to provide this additional department.

IT SHOULD BE AN IDEAL DEPARTMENT.

To have this proposed department an ideal and efficient one, it should be under the direct and personal supervision of the medical secretary, who should not only be a graduate of a medical school, and a man of letters, but a thorough sanitarian in all that this word implies, as well as possess an acquaintance with the requirements and needs of our own beloved country as well as those of foreign lands.

Genuine civil service reform should prevail in said department. The obliteration of the spoils system will mean a higher order of men. A spirit of *entente cordiale* will exist between all branches and schools of medicine and an *esprit du corps* will prevail also between the department, its secretary, and State and municipal boards of health everywhere.

This department should have control over the poor and unfortunate immigrants that land upon our shores. An instance which came under my observation recently may aptly serve as an illustration. During the first and second weeks in April about 17,000 Italian immigrants arrived in New York. On April 17 five of these unhappy and unfortunate people were arrested by the police of Chicago and placed in the police station, charged with vagrancy and begging on the streets. These poor unfortunate aliens had left their native country scarcely four weeks previously. This is but a single instance out of scores of analogous cases that came under my personal

observation during the past winter and spring months as an attaché of the Chicago Health Department. So that well may we ask what kind of citizens are we importing now? I am thoroughly convinced that a certain class of the illiterate and poorer classes of immigrants should be prohibited from landing on our shores—only to become a burden to us instead of a benefit to our nation.

NATIONAL VACCINE FARM, BACTERIOLOGIC LABORATORY, ETC.

Regarding this, and what might be regarded as kindred subdivisions of my topic, in the projection of sanitary improvements, etc., I will not attempt to discuss nor more than mention that they should be under the scientific observation of this department.

In concluding this imperfectly prepared paper, permit me to request of you to urge upon your representatives in Congress, your governors and others, in justice to the welfare of the people, in the name of science and humanity, the necessities and needs of our claim: That the medical profession and State medicine is broad and philanthropic and has made great strides and progress within recent years; that our medical representative or secretary will be a man of culture and intellect and *bon camaraderie*, thus assuring the profession and the world that our claim was not of the *ignis fatuus* kind; that at some future time the United States will have an ideal department of health with influence that shall be unsurpassed, will be our reward, for which posterity will bless us is my firm and sincere belief.

STATE MEDICINE IN PENNSYLVANIA AND HOW WE MAY INCREASE ITS EFFICIENCY.

Read in the Section on State Medicine, at the Forty-seventh Annual Meeting of the American Medical Association held at Atlanta, Ga., May 5–8, 1896.

BY EUGENE O. BARDWELL, A.M., M.D.

Health Officer of Emporium, Pa., County Medical Inspector to the State Board of Health of Pennsylvania, Fellow of the American Academy of Medicine, Vice-President of the West Branch Medical Association, etc.

EMPORIUM, PA.

The State Board of Health and Vital Statistics of Pennsylvania was organized in June, 1885, so that its existence covers a period of a little less than eleven years. The appropriation made for it on its natal day called for $5,000 per year, and the appropriation made ten years later was for $6,000 per year, so you may easily judge that there has been no great development of cerebral matter in the legislature of our good Keystone State during the past ten years. Out of this enormous sum $2,000 is paid to the secretary and executive officer of the board. I understand that the clerk of the board receives $1,500 per year, and this leaves the munificent sum of $2,500, which according to the terms of the act is to be expended, or so much of it as may be necessary, for postage, telegrams, express charges, rent, incidental office expenses, traveling and other necessary expenses of the members and secretary of the board, and for sanitary inspections, analyses and protection of water supplies, and for scientific investigations. Think of it, $2,500! Sanitary inspections, protection of water supplies, analyses, scientific investigations; and be sure to return an unexpended balance!

Pennsylvania in point of population is the second State in the Union. One of the oldest States. The Keystone? Notwithstanding the parsimoniousness of our legislature in regard to appropriations for the protection of the public health, I am happy to be able to say that we have, as far as they go, as good legislative enactments for the control of contagious and infectious diseasesand the regulation of health boards and all matters pertaining to the public health as could well be devised. In that respect nearly every session since 1885 has seen some improvement, chiefly through the efforts of one man, Benjamin Lee, M.D., to whose able and untiring work as secretary and executive officer of the State Board of Health, we primarily owe all our laws for the intelligent supervision and protection of the public health. To Dr. Benjamin Lee the State of Pennsylvania owes a debt she can never repay. But the people do not appear to appreciate the fact that to this one man all credit is due that the great State of Pennsylvania has, in sanitary matters, emerged from a condition akin to barbarism. Eternal vigilance, however, is necessary to prevent the repeal of our health laws. At every session of our legislature some learned member from Squeedunck, Daguscahonda or elsewhere will arise in his place with the air of a Solon, pull the fringe of whisker under his chin meditatively, and present a bill which, if passed, would destroy the result of the labor of years; labor, too, which has been done gratuitously without hope of reward, except such as comes through a man's inner consciousness of duty done. We have a large number of boards of health in small towns or boroughs, and the effectiveness of these boards is slowly increasing each year. The public is very slowly awakening to a knowledge of the utility of health boards and their work, but we are still wofully behind the times in many portions of the State. We have no boards of health in townships, although there is a total of 1,511 townships in the State. Now, such a state of affairs is a great drawback, and renders nugatory, to a certain extent, much of the effort put forth in towns and boroughs. In order to secure the best results every township should have its board of health and health officers; but our sapient legislature, having several times refused to legalize such boards, our State Board has, as a make-shift, appointed deputy inspectors who receive no pay, except when ordered by the State Board to investigate nuisances. One such inspector is appointed in each county, and when we consider the fact that many counties contain thirty, forty or more townships, it is easy to comprehend that such officer, serving without compensation, will not be able to exercise a very close or valuable supervision over sanitary affairs, the more so as the people are likely to look upon him as an outsider and give him no aid whatever. The cause of the apathy of the people in the matter is not general ignorance; it is ignorance on this one subject. The public control of matters pertaining to the health of communities is an idea comparatively new, and when it runs against that fetich of the American people, "personal liberty," it experiences a severe shock. Now how can we give an impetus to the dissemination of knowledge of this subject? To my mind the answer is easy and the result certain. Compel the State to pay for the service. It is entirely too much to ask men to serve on health boards for love of the people who abuse them. It has been my experience in the practice of medicine, that the people who pay promptly are my best friends in other ways. Nine times out of ten when a physician is stabbed in the

back it is done by some one to whom the physician has rendered services, either without fee or at a reduced rate.

Physicians who are supposed to act as health officers in most places, are surely the last people who should be expected to serve the State without fee. Physicians who give to individual members of the State from one-fourth to one-half of their total labor should not be expected to do more than that much for the public. In this State health officers receive all the way from nothing, in many cases, to $100 per month, in very few instances, in towns of the same size; and where the salary is largest, there is the officer most appreciated and there is the intelligence of the people in sanitary matters the most marked. The increased knowledge of the people is partly the cause and partly the effect of the high salary of the health officer. Where a health officer receives no salary, the people very naturally think his services are worth just what he gets. Aside from the fact that the health officer gets no credit for philanthropy, which is a small thing, his work is thereby rendered of little value to the people and to the State, which is a very important thing. Even ministers of the gospel, followers of the meek and lowly Savior, do not labor for nothing, and I most earnestly protest against physicians serving the State free of charge. I have just noticed in a recent medical journal that a well-known surgeon of Philadelphia has declined to serve as consulting surgeon to a State hospital for the reason that he thinks physicians ought not to serve the State gratuitously. All honor to Dr. John B. Deavor, and may his example be widely followed. It is a small thing to ask doctors to make reports of contagious or infectious diseases for the benefit of a community, and very few physicians object to making such reports free of charge; at the same time it is rank imposition to frame laws making such services compulsory, and the supreme court of Illinois has recently decided that doctors can not be compelled to make such reports without compensation. In Pennsylvania the State prescribes the duties of health officers, and imposes the pains and penalties attaching to non-performance of those duties; such being the case, it is clearly the duty of the State to fix the salaries of these officers and see that they are paid; and this same plan should extend to townships. Every township in the State should have a board of health, or at least a health officer, and the State should fix the salary and in case of a board, of the secretary as well. The salaries should be small, but even in small townships, where a salary of not more than $25 or $50 a year would be paid, it would be easy to find good men willing to serve who would do their duty faithfully and well.

So long as the old plan is followed of no pay but curses, it will be found almost if not quite impossible to get men, especially in townships, to take any interest in public health problems, or to give such matters any efficient support. Large cities may be trusted to attend to the administration of health laws, but outside of cities the State should control and should fix the salary of every health officer and inspector and every secretary of a board of health, at a rate proportioned to the number of inhabitants in the territory covered by such official.

In the State of Pennsylvania a few years ago the State authorities printed, by order of the legislature, a bird book which was of no use to man, woman or child, at an expense of about $40,000. Every session the State votes hundreds of thousands of dollars to city hospitals, sufficient, one would think in some cases, to pay all legitimate expenses of the hospitals which pay, in most instances, nothing for medical services, yet a patient from outside the city can not be accommodated in any of them for a sum less than is amply sufficient to pay all expenses incident to the care of such patient while in the hospital. Why does money flow so easily for such purposes? The answer in each case is the same. The publisher or editor of the bird book and the managers of the hospitals each have a "pull."

Shall we not take a hint from this state of affairs? We have talked and reasoned with our legislators, we have explained the benefits to be derived by the people from a more liberal expenditure in the public health department, we have treated our lawmakers as gentlemen, and we get $2,500 per year for expenses, scientific investigation, protection of water supplies, etc.

Now, in the writer's opinion, it is time to adopt a different plan. If we must adopt the methods of the politician in order to obtain anything from the State, then let us even do so and "fight the devil with fire." We all have friends who help make the laws; let us say nothing to them about benefits for the people, let us not appeal to reason or say anything concerning moral obligation. Let us say: "I am a friend of yours; I have voted the straight party ticket, lo, these many years; I supported you for school director and also for the Assembly. I carried a torch in the illustrated parade; I howled and hooted and yelled when the news came that you were elected, but now times have changed; I intend to fight your nomination in the caucus, or, if you should be nominated, to work against you at the polls, and get all the friends I can influence to do the same thing, unless you will promise to favor honestly and heartily an appropriation large enough to pay all health officers, inspectors and secretaries of health boards in the State, and also to pay for physicians' reports and to carry on scientific investigations as may be thought necessary or desirable by the State Board of Health, unless you show something like the liberality in providing means for preventing disease that you show in supporting hospitals and publishing bird books. If you promise to do this I will work for you in season and out of season; but it will not be enough for you to introduce a bill of this nature, or get some one else to introduce it, and then lay it under the table; you must work for the bill and work hard." Such a course is not a pleasant one to follow, but I confess I can see no other way that offers any reasonable hope of success. I am positive that we can never hope to have health boards in every township until we pay for the service rendered, and I am equally positive that were it possible to have a health officer in every township serving gratuitously, the benefits derived from such service would be infinitesimal as compared with that which would be received in case each health officer received a salary. Salaries should be made small enough to keep the office out of politics where it is possible to do so, but even a nominal salary tends to preserve the officer's self-respect and enhance his importance in the eyes of the public. That physicians will labor solely for love of humanity, work against their own interests to prevent sickness and do it without remuneration, the public will not believe, and such services are, in the end, of questionable utility.

It is the duty of every good citizen to preserve order and to suppress rioting or any public violation of the laws of the commonwealth, but such action is invariably left to the executive officers of the municipality or government, who are paid for performing those functions. I have looked the matter over carefully and I fail to find the slightest justification, the faintest shadow of a reason why the physician should serve the State gratuitously in any capacity. There is no class of men who give so much to the worthy poor ungrudgingly, there is no class who are so imposed upon and defrauded of their just dues as physicians, and it is time we refused to allow the State to add anything whatever to the sum total of the impositions we already suffer from individuals. In the way of public sanitation the Legislature of Pennsylvania has next to nothing to be proud of; but in coming generations, when our bones are dust, when the people understand fully the value, the immense benefits accruing to the State from public sanitary control and all that pertains to the functions of a State Board of Health; when our Christian civilization, so-called, shall present fewer elements of barbarism, when the true spirit of Christ is abroad in the land, and men who save lives are considered the heroes, then will the name of one physician stand high on the roll of honor as a public benefactor, as the founder and father of the State Board of Health of Pennsylvania, and the letters of that name, when written in order, will spell BENJAMIN LEE.

In preparing a paper on this subject to be read before this body, I have not thought it desirable to take up your time with an exposition of the reasons for advocating the establishment of health boards in townships, reasons which are patent to you all.

We ought to be and we are heartily ashamed of the position our State occupies on this question. Still, it is sometimes a good plan to air one's dirty linen in public, to the end that when the housewife learns that such a condition has become a matter of public notoriety, she may perchance reform.

SHOULD THE STATE PROVIDE HOSPITALS FOR THE TUBERCULOUS POOR?

Read in the Section on State Medicine, at the Forty-seventh Annual Meeting of the American Medical Association, at Atlanta, Ga., May 5-8, 1896.

BY J. F. JENKINS, M.D.

TECUMSEH, MICH.

Tuberculosis prevails in almost every region of the habitable globe. It is the most destructive of all the contagious diseases, requiring no new proofs at the present to establish the fact of its contagious character. To control the spread of tuberculosis, which stealthily enters into so many housholds in every community, is a problem which our profession is called upon for solution.

Pulmonary tuberculosis is so insidious in its nature, so slow in its evolution, so chronic in its course, frequently requiring months for its development, while its duration may extend over many years. From its incipiency to its termination the tuberculous patient is a menace to society, and although the subject of the disease neither excites public attention nor alarm, still he is more dangerous to the community than the leper, whom society abhors, or Asiatic cholera, which is feared by mankind everywhere.

We are well aware of the fact that many wealthy patients, or those of moderate means, may prolong life and a certain percentage regain their former health by a residence in a suitable climate, or they may undergo treatment at their homes without endangering the public health; but there is a large class in every community without means, and with bad hygienic surroundings; this dependent class should be provided by the State with proper treatment, and the public protected by having the tuberculous poor conveyed to a hospital for consumptives, because it is this class of patients that spread the disease in all directions.

In the rural sections of the country these dependents frequently occupy hovels, while in cities they are the denizens of tenement houses, cellars and garrets, which are usually almost destitute of light and air, deluged in filth, and surrounded by abject poverty. In this position tuberculous patients are the disseminators of the bacilli, sowing the seed in the well prepared soil which has been so richly fertilized by their insanitary surroundings. In the condition above described it is impossible for them to secure the treatment that humanity dictates, for temporary aid is almost valueless, principally from the fact that the disease is essentially chronic. The alternating hopes and fears of a dependent family constantly come under our observation; frequently a father with a half dozen children depending upon him, a mother or son, the only support of a family, is stricken down with this inveterate disease, which is so graphically described in the following lines by the pen of Dickens in the death of Smike:

"There is a dread disease which so prepares its victims, as it were, for death; which so refines it of its grosser aspect, and throws around familiar looks unearthly indications of the coming change—a dread disease, in which the struggle between soul and body is so gradual, quiet and solemn, and the result so sure, that day by day and grain by grain the mortal part wastes and withers away so that the spirit grows light and sanguine with its lightling load, and feeling immortality at hand, deems it but a new term of mortal life; a disease in which death and life are so strangely blended that death takes the glow of life and life the gaunt and grizzly form of death."

From the shores of the Great Lakes to the Gulf of Mexico, and from the Atlantic to the Pacific Ocean, wherever towns and cities are built, there will be found special or general hospitals, and even the few lepers within this wide domain are either segregated, or are carefully provided with lazarettos, but for the "great white plague," consumption, which carries off one-seventh of the human race, scarcely a beginning has been made in the way of building and maintaining hospitals for their accommodation.

Our country is far behind England and Germany in providing hospitals for the treatment of consumptives, and it will be well for us to look over the field, in order to ascertain what has been done abroad and what may be done at home to stamp out a disease which is more destructive to the youth of our land than war itself; and when we place a commercial value on human life the aggregate annual loss would amount to many millions of dollars.

Over a century ago England began building hospitals for consumptives, and at present there are eighteen hospitals containing over seven thousand free beds for tuberculous patients, the result of which has been to materially lessen the death rate from pulmonary tuberculosis in that country.

The *Progrès Médical* in a recent issue makes a statement relative to tuberculosis in France and England which clearly demonstrates the results accomplished by special hospitals for consumptives. That journal states: "That there are three times as many deaths in Paris as in Great Britain, and that in 1870 the mortality in England and Wales was 2,410 for each 1,000,000 inhabitants, but since consumptives have been treated in special hospitals this number has fallen to 1,468, in 1893. In Paris there were 4,158 deaths from tuberculosis during 1894, or almost three times as many as across the Channel." If the foregoing statement is correct, England saves the lives of 20,000 of her inhabitants yearly by wise sanitary measures in maintaining special hospitals for her dependent class of consumptives; on the other hand, Paris loses several thousand of her citizens yearly from defective sanitary laws and deficient hospital accommodations for her indigent class of tuberculous patients. The city of Paris has recently built a hospital at Agincourt, some fifty miles from the city, with a capacity of one hundred beds, for her dependent class of tuberculous patients, and there are some half dozen more located in different parts of France. Many of the larger cities of Germany have recently built special hospitals for consumptives, as Berlin, Cologne, Hanover, Breslau, Dresden, Frankfort-on-Main, Würzburg and Bremen, besides there are two institutions located in the Hartz Mountains, and one in the Black Forest. German statistics have shown a marked decrease in the death rate from tuberculosis within the past few years. They are building an institution near Vienna for the tuberculous indigent, and even the "unspeakable Turk" has built a consumptive hospital for children on the banks of the Bosphorus.

The success attending the treatment of tuberculous patients in private hospitals is certainly an encouragement for States and municipalities to build and support hospitals for the dependent class. At Gorbersdorf in Silesia a private sanitarium was built in 1854 which in the course of eighteen years has had under treatment about 958 consumptive patients, of which 20 per cent were permanently cured; and in the private institutions located in the Alpine regions there have been reported cures in 40 per cent. of tuberculous cases. The city of Bâle, Switzerland, has lately pledged herself to build and maintain a sanitarium for her tuberculous poor.

In our own country a number of private hospitals have been built by philanthropic persons and societies, and it becomes necessary to mention them, and the success attending them, in order to ascertain in a measure what may be accomplished by public institutions built for the treatment of the tuberculous poor. One of the most widely known is the Cottage Hospital, situated in the Adirondacks, which will accommodate eighty-four patients. This hospital during the past ten years of its existence reports a cure in from 20 to 25 per cent. of their cases. In the Adirondack Mountains, about 1800 feet above the sea, a hospital for consumptives is being built named the Sanitarium Gabriels.

The Sanitarium at Ashville, N. C., has an accommodation for 100 patients, and reports that of 600 patients treated in that institution 45 per cent. have recovered. The Home for Consumptives located near Philadelphia, it is stated, discharge each year about 30 per cent of their patients cured, and in that city is the Rush hospital for consumptives; both of these are institutions of small capacity. In the vicinity of Boston is a small institution called the Sharan Sanitarium, and in Colorado there are three private sanitariums for tuberculous patients.

In all these institutions above named there are only about two hundred free beds, while England has over seven thousand free beds for her tuberculous poor.

Massachusetts probably has the largest death rate from tuberculosis of any State in the Union, but she has recently adopted measures which will doubtless lessen the death rate from this disease, her legislature having appropriated $150,000 for building a hospital for her tuberculous poor. Dr. F. I. Knight, who was before the Finance Committee of the Massachusetts Legislature, states that the question was asked him: "Have the medical societies of the country made any formal declaration which has been put on record, in regard to the establishment of such hospitals?" Fortunately he could reply that "Some societies had made such a record." "I was astonished to see how readily these men—most of them politicians—favored the hospital idea, not only showing sympathy with the homeless patients, but with the idea of preventing the spread of a disease which is communicable. To our surprise on our first effort, both houses passed an appropriation of $150,000, which was signed by the Governor, for the establishment of a hospital for the consumptive poor."

The above is a brief sketch of the first successful effort to build a State hospital for this purpose. A question was asked by the Massachusetts Legislature which would undoubtedly be the question propounded by State legislatures everywhere when requested to build hospitals for the consumptive: Have the medical societies of the country placed themselves on record relative to building these hospitals? Finally, has the AMERICAN MEDICAL ASSOCIATION made a formal declaration relative to States and municipalities building and and maintaining hospitals for the consumptive poor?

REMARKS RELATIVE TO THE UNITED STATES MARINE-HOSPITAL SERVICE.

Delivered in the Section on State Medicine, at the Forty-seventh Annual Meeting of the American Medical Association, held at Atlanta, Ga., May 5-8, 1896.

BY WALTER WYMAN, M.D.

SUPERVISING SURGEON-GENERAL U. S. MARINE-HOSPITAL SERVICE, WASHINGTON, D. C.

I had hoped that I could prepare a paper in response to the invitation of the Chairman, but was uncertain whether I could attend this meeting, and was too hurried to prepare a formal essay. However, the day before I left Washington I received from the Public Printer the Annual Report of the Marine-Hospital Service, 1895, which had been in his hands four or five months, and as the material therein is new, I thought it might be of interest to bring it with me, and explain to this Section that portion of the report which relates to the public health service.

If you will turn to page 249 you will see a résumé of the operations of the service in the interest of public health during the last year. Referring to the preceding portion of the report I may say it deals directly with the operations of the Marine-Hospital Service in its care of the sick and disabled seamen of the merchant marine, about 53,000 being treated annually. It seems to me that any service in behalf

of the seamen of the merchant marine, is public health service in the broader sense. But returning to this section, you will find in this résumé an account of the danger of the introduction of yellow fever from Cuba, and operations to prevent the same.

You will find also an account of the threatened introduction of smallpox by the return to the United States of some four hundred negro colonists who had been to Mexico, where a colony had been attempted and failed, there being 178 cases of smallpox among them. The bureau took charge of these colonists, established a camp, fed and held them under observation until the last case disappeared, when their clothing was either disinfected or burned and replaced with fresh clothing and they were allowed to go on their way.

While these operations were in progress reports came from Japan, China and the Sandwich Islands with regard to cholera that created considerable alarm. The special measures adopted to meet the unusual danger are detailed in the following pages.

The national quarantine stations are described on pages 252–304 inclusive. I will not go into details as they are fully set forth in the reports of the medical officers.

An account of the division of sanitary reports and statistics is given on pages 305–310 inclusive. I will call your attention to a table prepared in this division, showing the yearly mortality of 199 cities in the United States.

The operations of the hygienic laboratory are found on pages 311–343 inclusive. In this report of the medical officer in charge of the laboratory will be found a complete discussion of the serum therapy of diphtheria. There will be found also an interesting account of some experiments which have been made in the serum therapy of variola. Also, an account of the examination of drinking water in the District of Columbia, and reference to experiments made with a view to practical disinfection of mails and school and library books.

The sanitary inspection service you will find described on page 344, showing results and giving a description of the inspections which were instituted by the bureau for the purpose of keeping out epidemic diseases.

I will not take your time by attempting to summarize the pages on cholera, smallpox and yellow fever, but I believe you will find them very interesting.

Since the date of this report I have prepared a circular letter addressed to the mayors of the cities and towns of the United States making inquiries relative to the water supply of the several cities, and the disposition also of the sewage. We have sent out these circulars to a few cities at first, but we propose to send them to all the cities in the United States, collect the information and publish it in a condensed form. The blank form which I have here has place for answers to the several questions relating to the source of water, its storage, purification, distribution, control and its disposition. The blank also relates to sewage and garbage disposition. In addition to the above the bureau has recently enlarged the scope of the health reports and improved the records pertaining to diseases of all classes throughout the United States.

DISCUSSION.

DR. VALENTINE—It seems to me one matter has been entirely overlooked. I refer to the disease which kills 80 per cent. of the women, which destroys the health of 80 per cent. of the children who are born healthy. I will not speak of the particular cases directly due to gonorrhea. I am not speaking of it as a disease, but as a sequel; but I desire to ask whether the disease is not one of importance, and whether it does not merit closer consideration and some active measures for the prevention of its spread. In many cities an effort is made requiring the prostitutes to be registered. In the city of Berlin there are more than twenty thousand registered. Without adequate methods of inspection the efforts are almost unavailing, and the disease is being propagated at from six cents up. This matter naturally belongs in this Section, but I think the Department which has rendered such signal service in the matter of public health should take it up also. It is my hope to show on Friday the manner in which 60 per cent. of the cases of gonorrhea are curable in ten days, 30 per cent. within one or two weeks at the utmost, and 5 per cent. within two weeks, leaving 5 per cent. as yet without the reach of the new method. Why should not the Marine-Hospital Service adopt the method which requires no expense, obviates all danger of contagion and numerous other things which could be prevented.

DR. KELLOGG—I just want to enter a protest against this country adopting any such method for the supposed prevention of the disease named as that described in Europe. A recent investigation made in Berlin, even, shows that not one in ten of these diseases are discovered; and this method, while it gives a sense of security to every cautious man, at the same time really promotes the disease which it intends to prevent.

SERUM THERAPY IN DISEASE.

Read in the Section on State Medicine, at the Forty-seventh Annual Meeting of the American Medical Association, at Atlanta, Ga., May 5-8, 1896.

BY GEORGE TULLY VAUGHAN, M.D.

PASSED ASSISTANT SURGEON IN COMMAND U. S. MARINE-HOSPITAL SERVICE. PHILADELPHIA, PA.

From the time of Jenner's discovery that the dried serum of cowpox prevented or modified smallpox when introduced into the human system, has existed the hope that remedies would be discovered somewhat of the same character which would cure or prevent all diseases.

But this bud of promise was slow in developing, and the bright expectations thus aroused were doomed to wait a century before they were even partially realized. As the ovum of the cicada septemdecem requires seventeen years to bring forth the mature insect, so the germ of Jenner's discovery after an incubation of one hundred years has blossomed into the science of bacteriology, which, through the labors of Pasteur, Koch, Behring and others, has already brought forth a wonderful harvest of relief from suffering and disease, and the day seems now at hand when, with a cure or preventive for every disease, cholera, yellow fever, diphtheria, leprosy, syphilis, and tuberculosis will be as rare as smallpox now is among those who are properly vaccinated. The ideal treatment of disease is to prevent it.

The fact that certain animals are immune from certain diseases, *e.g.*, that the lower animals do not have syphilis, has long since excited curiosity as to the reason, but nothing satisfactory was offered until the bacteriologists had established the existence of toxins and antitoxins, and that immunity can be induced or acquired by the proper use of the specific entity, its products, or effects, which causes the disease.

The theory of natural immunity now most in favor is that the blood serum contains in solution a germicidal proteid, alexin or nuclein, whose source is the

leucocytes, soluble only in an alkalin fluid, and that phagocytosis (the phenomenon discovered by Sternberg and developed by Metschnikoff) plays a subsidiary part. Nucleins are thus defined by Victor C. Vaughan: "Physiologically, nucleins may be said to form the chief chemic constituent of the living part of cells. Speaking broadly, we may say that nuclein is that constituent of the cell by virtue of which this histologic unit grows, develops and reproduces itself. It is the function of the nuclein of the cell to utilize the pabulum within its reach. It must be evident that those tissues most abounding in cellular elements contain relatively the largest amount of nuclein. It must also be seen that it is by virtue of their nuclein that the cells of various organs and organisms possess and manifest their individual peculiarities.

"We should therefore expect to find that the nuclein of the yeast cell is not identical with that of the bacillus tuberculosis, and that the nuclein of the spleen differs from that of the thyroid gland. The number of kinds of nuclein is limited only by the variety of cells. Nuclein is the chemic basis of that part of the cell designated by the histologist as the nucleus, sometimes called chromatin on account of the readiness with which it absorbs and holds coloring agents. It is the nuclein of the bacterium which takes up and retains the stains, and it is on account of the fact that the nuclein of the bacillus tuberculosis differs from that of other bacilli that we are able to distinguish the former from the latter by its tinctorial properties. Differences in reaction with staining reagents, so plainly seen under the microscope, are only outward manifestations of less apparent and more important differences in chemic composition. Chemically the nucleins are complex proteid bodies, characterized especially by the large amount of phosphorus which they contain. The phosphorus exists in the form of nucleinic acid, which is combined with a highly complex basic substance. So far as we know at present, the nucleinic acid of all nucleins is the same, yet the basic part differs in the various nucleins. This basic substance yields, as decomposition products, one or more of the so-called xanthin bodies, adenin, guanin, sarkin and xanthin. Some nucleins yield only adenin and these may be designated as adenyl nucleinic acids. Those which furnish xanthin most abundantly may be called xanthyl nucleinic acids. Generally speaking, the nucleins are insoluble in dilute acids and soluble in dilute alkalies. They resist peptic digestion and in this way may be separated from most other proteid bodies."

According to Buchner natural immunity can not, as a rule, be transmitted to the body of another animal by means of the blood.

Acquired or artificial immunity is of the greatest importance as it affords the physician the means of preventing disease. To Pasteur belongs the credit of having taken up the thread where Jenner left off and he was the second to show, by his experiments on chicken cholera in 1888, that infectious diseases may be prevented by inoculation with "attenuated virus." Immunity may be acquired: 1. By having the disease. One attack of certain diseases as yellow fever, smallpox, measles, scarlet fever, etc., usually assuring future immunity. Of course this may be induced by inoculation with the microörganism of any particular disease. 2. By inoculation with attenuated cultures. 3. By inoculation with filtered cultures which are free from bacteria, or with sterile cultures which contain dead bacilli. Filtered cultures contain the toxins, while sterile cultures contain in addition some special property in the dead bacteria. The latter were used by Löffler and Abel in their experiments for immunizing against typhoid fever with the best results. This protective power afforded by one attack of a disease against other attacks of the same disease or by inoculation with bacterial cultures, is generally supposed to be due to the existence of antitoxins and something else (enzymes) in the blood serum. The antitoxins were discovered in 1890 by Ogata and Jasuhara of Tokio, when they found that the blood of an animal immune against anthrax contained something which neutralized the toxic products of the anthrax bacillus.

Experiments have shown that in some cases the blood serum of immune animals has no antitoxic power but acts as a germicide, and as a rule antitoxins have no such power. In such cases the immune animal may still be susceptible to the action of the toxins though unaffected by the bacillus. Brieger and Ehrlich had proved that antitoxin is contained in the milk of a goat which had been immunized against tetanus, by conferring immunity to the same disease on a mouse by injections of the milk. The *modus operandi* of the antitoxins is involved in considerable doubt.

According to Buchner, the action of the antitoxins does not depend on destruction of the bacterial poisons by contact with them but upon their action through the medium of the tissues of the body. The presence of the antitoxins produces a lower degree of susceptibility to the toxins of the bacteria, in the living cells of the body, thereby rendering it more resistant to the action of the specific toxin.

Sternberg says: "We must admit that the exact source and method of production of the antitoxins in the animal body, and their mode of action, are still undetermined; and for the present, we must be satisfied with the knowledge that, in some way, these so-called antitoxins, which have been proved to be present in the blood serum of immune animals, protect them from infection by pathogenic bacteria. And that when transferred to susceptible animals they confer upon them a temporary immunity; or if introduced after infection, may neutralize the pathogenic action of the toxins produced by specific disease germs." The following are the known differences between alexins and antitoxins. Alexins are germicidal and globulicidal, destroying both red and white corpuscles of animals belonging to different species from that whence they were obtained; they are coagulable and unstable, destroyed by sunlight and by a temperature of 50 to 55 degrees C. Antitoxins are not germicidal or globulicidal; they resist the action of sunlight and require a temperature of 70 or 80 degrees C. for destruction.

Failing to prevent disease the next best thing is to cure it, and the successful use of blood serum in accomplishing this result first seems to have first been made by the Japanese bacteriologists already mentioned, Ogata and Jasuhara, although their experiments failed of confirmation by others, when, in 1890, they announced that mice which had received a small amount of dog's, rat's or frog's blood (animals immune to anthrax) two or three days before, or a few hours (5) after, the injection of anthrax bacilli, all recovered from otherwise fatal doses of anthrax bacilli and proved afterward to be immune. No doubt the first step in this direction was made when in 1888, Nuttall demonstrated the power possessed by blood serum of

antagonizing the products of bacterial growth, while to Behring and Kitasato belong the credit of having, in 1891, established its use as a practical measure in the treatment of disease.

Blood serum has been used in the treatment of the following diseases with more or less success: Diphtheria, cholera, tuberculosis, leprosy, syphilis, tetanus, typhoid fever, pneumonia and others. Beyond question its greatest triumph and most convincing effect for good has been obtained in the treatment of diphtheria. I had the pleasure of seeing many cases treated by Dr. Kossel in Koch's Institute for Infectious Diseases in the winter of 1894–95. It is as unreasonable to doubt the efficacy of antitoxin in diphtheria as it is to doubt the power of vaccination to prevent smallpox or to modify its virulence.

Syphilis has been treated with the blood serum of one who has just passed through an attack of the disease by Dr. Edward Cotterell of England, in eighteen cases extending over a period of six months with the following results: 1. In the early stages with only a sore and glandular enlargement, injections of this serum caused the sore to heal rapidly. The adenitis in the groin became intensely marked, while the skin and throat symptoms were absent or slightly marked. 2. When the treatment was not begun before the rash and throat symptoms had developed, the skin eruption faded more rapidly than under mercurial treatment, but the throat symptoms disappeared rather slowly. 3. The general health improved. 4. Serum from a person with secondary symptoms appeared to be more active than that obtained from one with tertiary symptoms. 5. Dose of the serum from one-half to five cubic centimeters.

The importance of finding a remedy for the treatment of leprosy is evident when the rapid increase in the number of sufferers from this disease in certain countries is considered. The United States Minister to the United States of Colombia reports the number of lepers in that country to have increased in forty years from four hundred to twenty-seven thousand. Dr. Carrasquilla of Bogota reports fifteen cases of tuberculous leprosy treated with blood serum and four cured in less than a month, except for the scars caused by the ulceration. Dr. Putnam of the same place reports a case treated with serum with great improvement which promised ultimate recovery.

He prepares the serum by making a culture of the bacillus lepræ in the blood in the vessels of a living animal instead of in an artificial apparatus, thus: He takes blood from the leprous patient, allows it to stand four hours in order to separate the serum which is then injected into asses or goats.

After the proper time the serum of the asses' or goats' blood is used as a remedy on the patient from whom the serum was originally obtained or on any case of leprosy. Dr. Putnam admits that he obtained ideas as to the treatment of leprosy from Dr. Carrasquilla. Dr. W. Impey, Medical Superintendent of the Leper Settlement at Robbens' Island, Table Bay, where 600 lepers live, says he has noticed that whenever a leprous patient is attacked by any inflammatory skin disease as measles, smallpox, or erysipelas, the part affected is invariably cured of leprosy, and the patient either entirely recovers from leprosy or his life is prolonged beyond the normal period of eight years. Dr. Impey advocates the induction of erysipelas within three or four years after the disease begins and believes that by this means leprosy may be eventually stamped out.

Kinyoun (1895) reports two cases of smallpox treated by injection of serum from a vaccinated or immunized heifer, beginning with 15 c.c. with encouraging results. The treatment was commenced during the pustular stage.

More recently Beclere reports a case of smallpox treated by the injection, in the course of one hour, of 1500 c.c. of the same kind of serum on the third day of the disease, with rapid recovery.

Before ending this paper I will refer briefly to the use of serum in tuberculosis as recommended and practiced by Dr. Paul Paquin of St. Louis. He uses serum from the horse which has been rendered strongly antagonistic or antitoxic by the use of gradually increasing doses of tubercle bacilli toxins. It takes three months to prepare a horse and the method is similar to that used to prepare him for producing the antitoxin of diphtheria. Dr. Paquin reports the results of one hundred cases of pulmonary tuberculosis treated from three to eight months as follows:

In the first stage, recovered 14; in the second stage, improved, 26; disappeared from observation in all stages 35; died, treatment begun in second stage, 5; died, treatment begun in third and fourth stages, 20.

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THE ABUSE OF ALCOHOLIC DRINKS, ITS RELATION TO PUBLIC HEALTH AND ITS PREVENTION.

Read in the Section on State Medicine, at the Forty seventh Annual Meeting of the American Medical Association, held at Atlanta, Ga., May 5–8.

BY W. BAYARD, M.D., EDIN.

ST. JOHNS, NEW BRUNSWICK.

I have selected for discussion the abuse of alcoholic drinks, its relation to public health and its prevention. I emphasize the *abuse* as I am unwilling to believe that the moderate and proper use of them has relation to public health.

It will not be disputed that the abuse of them, with its attendant consequences, disease, insanity, crime, poverty and premature death, is the greatest evil of the age, and that it calls loudly for remedial measures. What those measures shall be has exercised the minds of many.

The subject has been discussed in the pulpit and on the platform, some claiming that nothing but coercive and restrictive measures will remedy the evil, while others declare that such measures will aggravate it, both wishing to arrive at the same goal, but differing as to the road; in their enthusiasm, too often ignoring all rights, appealing to passions and prejudices, claiming more than can be accomplished, and deliriously denouncing those who differ from them, thereby injuring a good cause. The subject is of such vast importance that it should be approached calmly and reasonably, appealing to the mind from a moral and sanitary standpoint.

Our professional education teaches us the physiologic action of alcohol, the base of all intoxicating drinks, upon the human system; when it shall be abstained from and when it can be taken with advantage. It teaches us that when taken into the stomach in a concentrated form a chemic action takes place in consequence of the strong affinity it possesses for

water, seizing that fluid contained in the tissue, producing a coagulation, rendering it hard and dense and destroying for a time the absorbing power of that organ, which will only be renewed when the alcohol becomes sufficiently diluted with the water in the tissue. It may be observed that pure brandy, which usually contains equal parts of alcohol and water, is sufficiently strong to produce this coagulation, and when diluted is absorbed into the circulation with marvelous rapidity, as proved by the experiments of Dr. Percy, who found that when death took place in two minutes after it was injected into the stomach of the animal, that organ was found almost void of it, while it was found in the blood and in considerable quantity in the substance of the brain. It appears to seek out and fasten itself upon the nervous matter, affecting in the first stage of intoxication the intellectual faculties through the cerebrum. In the second stage, a disturbed function of the sensory ganglia, as indicated by want of control over the muscular movements which are guided by sensation. And in the third stage, when the functions of the cerebrum and sensory ganglia are suspended and those of the medulla oblongata and spinal cord now begin to be affected, as shown by the difficulty of respiration, strabismus, dilated pupils and tetanic spasms.

According to Richardson the man who swallows eight ounces of alcohol in twenty-four hours increases the number of the beats of his heart from 100,000 to 124,046 during that period, at the same time altering the shape and quality of the red globules of the blood.

Observation teaches us that alcohol is partly eliminated from the system by the lungs, bowels, kidneys and skin. But the amount thus eliminated is so small that it does not account for all that disappears. Carpenter thinks that a combustive process takes place in the blood, at the expense of the oxygen it contains; while the experiments of E. Smith and others go to show there is no increase of carbonic acid produced. Anstie and Thudicum contend that it is consumed in some way in the economy, though how they do not say. It is urged by Beale and Bing that alcohol possesses the property of restraining the rapid growth of young cells and, like quinin, of checking the increase of the white corpuscles of the the blood.

While alcohol is one of the means of keeping up animal heat through the increased action of the heart, it can not be classed as fuel-food. Animal heat is maintained by the combination of the carbon and hydrogen contained in the blood, with the oxygen taken in by the lungs. Fats and sugars in the blood yield the carbon and hydrogen, and while alcohol furnishes the same elements of combustion, it is not certain that it plays the same part in the body. Alcohol does not contain any of the constituents necessary for the growth and regeneration of the muscular system.

Our professional experience, too often, teaches us the baneful effects, morally and physically, upon the individual who indulges in the use of alcoholic drinks to excess. While the justice is daily and hourly brought face to face with the "moral evil," the physician is as often called upon to combat the inroads upon the constitution produced by the abuse of them.

Laudable efforts have been made to stay the progress of intemperance. Societies have been formed, laws enacted and persuasive and coersive measures adopted. Yet according to investigations of the Harveian Society, it appears that in London one-seventh of all adult deaths (male and female) is directly or indirectly due to the consequences of alcoholic excess.

The statesman requires the aid of all enlightened minds to assist him in framing such laws as will meet the difficulty. And the people at large require to be taught that the abuse and oftentimes the continued use of alcoholic drinks leads to results dreadful to contemplate. They must be made to believe that they are swallowing a poison, which, if taken at improper times, in improper quantities, will sooner or later, inevitably create disease of the body and mind. Who can educate them so well on these points as the physician? It is our duty as custodians of the public health and as well-wishers of our race, by precept and by example, to exercise that influence which each and every one of us can command toward this end.

A certain amount of self-control is implanted in the mind of every individual; he knows that danger attends many of his acts; he commits the act and avoids the danger. So with the alcoholic drinks, the danger lies not in the use of them but in the improper use of them. His daily experience teaches that many, very many, become victims to the abuse. He thinks he possesses sufficient self-control to avoid the danger, and so he does, up to a certain period; but let him continue to indulge at improper times and in improper quantities, that self-control is lost and can only be regained by continued total abstinence; one glass will rekindle the appetite, when the fire will continue to burn until disease and death follow.

If an individual is so weak minded and so much the creature of impulse and selfish desire that having experienced the pleasurable effects of intoxicating drinks he will voluntary surrender that power given him by Providence for his safety and throw aside the reins of self-government, he is to be pitied; can claim no respect and is a fit subject for restrictive laws and punishment. He should know that the highest attribute of a well-regulated mind is the power of self-control, that the act of self-government is noble, when exercised in the face of temptation, and nothing without it. He who will not restrain an injurious appetite degrades himself to the level of the brute creation.

The individual under the influence of alcoholic liquors feels an exhilaration of spirits, a sensation of gaiety, is pleased with himself and others, his ideas flow rapidly and he pours forth his thoughts with force of expression and richness of conception. But as the candle burning brilliantly in an atmosphere of oxygen soon burns itself out, so the over-stimulated brain becomes exhausted and demands rest, upon the well-known principle that undue mental excitement, from any cause, is invariably followed by depression and languor.

The fact that alcohol when taken into the circulation augments the force and rapidity of the heart's action, increases the excitability of the nervous system and supplies one of the means of keeping up animal heat commends it to the physician when other means of obtaining these effects are defective. Our practical experience teaches us that when administered with caution and discrimination it is a valuable remedy in various forms of disease and one for which no proper substitute has yet been found. As to its mode

of action in the cure of disease we can not speak with certainty. Dr. Berdon Sanderson's theory seems to be accepted, that in certain diseases the tissues waste, first the fat, then the muscles, and that the alcohol prevents their waste at a time when the patient's stomach is too weak to receive nutritious food. He says the cause of the waste of tissues is that they are used or burned in the process of respiration, alcohol takes their place and supports respiration when the stomach is too weak to prepare and assimilate any other food for the purpose. The practical application of them must be left to the judgment of the physician, no two cases being exactly alike, each differing in constitution, intensity and temperament. But he should be careful to avoid bringing the system into a habit of dependence upon the stimulus, for it can not be doubted that over-indulgence has commenced with the therapeutic use of it. Hence he should be ever on his guard.

Those who value good health and wish to enjoy the effects of alcoholic drinks socially will naturally ask at what time and in what quantity can they be used with impunity? We may answer that except in sickness alcohol in any of its forms should never be taken without food, and preferably at dinner. I wish to impress this precept as strongly as words can express it upon the minds of all who hear me, believing as I do, that food is the great antidote to its injurious effects, and that if this rule were adopted we should not see one inebriate for every hundred we see under the present pernicious custom of drinking at all hours of the day and upon an empty stomach.

A man meets a friend to whom he wishes to be "civil;" he asks him to have a drink; the friend is not thirsty, but he does not wish to be "uncivil," and they have their glass. They meet other friends in the shop, who also want to be "civil." The result is that many glasses are taken upon an empty stomach which can not at the time bear with impunity one glass. This is not the use; it is the abuse, and he who so indulges will sooner or later pay the penalty. Happily this "treating habit" is decreasing.

As to the quantity, it is difficult to lay down any rule; what would be enough for one would be too much for another. The quantity usually taken at a dinner party, if habitually taken, would prove injurious. From one to three glasses of port, sherry or claret should be the limit. Light wines are preferable, the stronger liquors should never be taken in larger quantities than from one to two ounces, and then largely diluted.

Before a remedy is applied to an evil its cause should be studied. The fondness for stimulants of some kind is almost universal, every nation exhibiting more or less of it since the time of Noah, who "drank wine and was drunken." And I may add that the most civilized, the most powerful nations are the most drunken. Does not this fondness for alcoholics originate in the "beneficent instinct" implanted in man, which prompts him to seak pleasure and avoid pain, bodily or mental? I think it does.

While the history of intemperance teaches us the evil is less than it has been at any time since the first century, still the existing evil is of such magnitude that it urgently demands remedial measures.

There are four that present themselves to a reflective mind, namely, sanitation, education, legislative regulation and prohibition.

Sanitation. There is abundant evidence to prove that insanitary surroundings are the cause of more or less bodily and mental languor, often accompanied by lowness of spirits. The man returns from his daily work to a cheerless home, with few comforts, fatigued in body and worried in mind; he takes a glass; his cares assume a pleasanter aspect and, according to Solomon, "his heart grows lighter." Here lies the danger; continue the habit and this use is soon followed by the abuse. Give him a bright, cheerful, healthy and happy home and you remove a large cause of intemperance.

Education, I contend, is the most potent combatant against inebriety. Appeal to the man's fears and to his understanding. Teach him that alcoholic drinks do not assist his muscular power, that they do not enable him to withstand the effects of heat or cold, that they do not contain the necessary ingredients for his well being and that he is much better without them. Teach him that if he will take them, from one to two ounces of brandy or whisky should be the limit. Teach him that under no circumstances—in health—should they be taken on an empty stomach or without food. Forbid the use of any form except as medicine to the young. Teach him that the exhilarating effects of alcoholic drink is evanescent and that the effect is bound to be followed by a corresponding depression; that if he continues to take them in quantity or at improper times a dangerous craving and dependence upon them is produced which sooner or later will obtain control of him. No man intends or expects to arrive at this stage. He will say to you that this one or that one has taken them as he does, with impunity. True, but this is the exception to the rule and many are ruined by such exceptions. Teach him that they act injuriously upon every organ of the body and that the injury is not confined to himself, but extends to his offspring, entailing upon them insanity, idiocy and inebriety, a catalogue that should alarm any sane mind. Plutarch says that one "drunkard begets another," and Aristotle that "drunken women bring forth children like unto themselves." He may tell you that he will reduce his allowance. Impress upon him that he can not do this with safety; one glass will surely kindle the appetite. Total abstinence will alone protect him.

Temperance and total abstinence societies have done and are doing much good. While I do not altogether agree with their mode of education, inasmuch as they ignore the power of self-control in man and say to him: We will not trust you, we must have a pledge. Still, acknowledging the good they have done, I strongly advise all those who fear to trust themselves to take the pledge, but as men are more easily led than driven, I feel that temperance enthusiasts will accomplish more for their cause by claiming less and refraining from denouncing those who do not see eye to eye with them, as holding the cup to their neighbor's lip. Lectures should be given pointing out the evil, and it should be daily impressed upon the mind of every child in our public schools; through the child the erring parent may be educated.

Legislative regulation. From the year 1551 to the present date, laws have been enacted, canons, decrees, and anathemas made against the abuse of alcoholic drinking, and it may be asked, what have they accomplished? The Committee of the House of Lords in England declared in their report (1879) that "recent

legislation has had a beneficial effect throughout the country by producing good order in the streets, by abolishing the worst class of beer houses and by improving the character of licensed houses generally. It is not, however, proved that it has diminished the amount of drunkenness." "In certain localities drunkenness has increased among women, but as a rule the respectable class of artisans (both male and female) are becoming more sober and the apprehensions for drunkenness are becoming more and more confined to the poorer classes of the community."

Laws upon the statute book are useless unless enforced. To accomplish this object the laws require to have the approval of a large majority of the community, who must feel that he who breaks or evades them degrades himself. This belief does not exist owing to the fact that a large majority of those who purchase and consume liquor, use it in moderation, are never intoxicated and do not feel that they are injured by it. They claim that a majority of ninety should not be coerced by a minority of ten, who are too selfish to obey the restraining power Providence has given them.

The object of all laws regarding alcholics is to control and lessen the use of them. As you increase the cost and the difficulty of obtaining them so you lessen their consumption. To do this the price of the license to sell should range from $500 to $1,000 per year, and in number should not exceed one in every five hundred inhabitants. Happily individuals, as a rule, are ashamed to be seen in or going into a barroom, enter by a side door and drink behind a screen. I would foster this shame by making it imperative that the barroom shall face the street, have but one entrance, without blinds or shutters to the windows, enabling passers in the street to see those in the room. Barrooms should not be allowed in hotels, the boarder should be required to treat his friend in his room, and they should be prohibited in grocery shops.

The present licensing system is defective in every particular, inasmuch as the number exceeds the demand, creating such competition that the "publican" can not afford to refuse credit and must please his customer by giving him liquor at all hours. The hours of opening are too early. For I hold that under no possible circumstances is it necessary or beneficial for a healthy person to drink liquor before his dinner hour; on the contrary, when the appetite craves the stimulus in the morning the subject is on the road to ruin.

At the risk of being considered "Utopian" I do not hesitate to urge that no liquor should be sold for consumption on the premises at an earlier hour than 2 o'clock in the day, and then preferably with food. I might go further and urge that it be not sold for consumption on the premises at any time without food. It may be urged that the purchaser would pay for the food but not eat it. True, but the expense of the performance would have its influence upon the amount of liquor consumed by him. Legislation should encourage the use of light wines and beer as containing less alcohol.

The Gothenburg system commends itself to the rate payers, as all the profit accruing from the public-house sale of liquor is appropriated toward paying the debts of the municipality. It is recommended strongly by the committee before referred to, composed of seventeen of the leading men in England. It directs that no individual, either as proprietor or manager, shall derive any private gain by the sale of spirits. That the whole public-house traffic be transferred to a limited liability company, who shall undertake by their charter to conduct the business solely in the interest of temperance and morality, and to pay to the town treasury the whole profit beyond the ordinary interest on the paid up capital. The capital annually expended was between $30,000 and $40,000, and the profits amounted to nearly $120,000. The number of licenses issued by the new company was reduced from 119 to 56. The company had the power of fixing the hours of closing and prohibited all "bar" business from 6 P.M. on Saturday to 8 A.M. on Monday. The experiment appears to have worked well, for almost every town in Sweden has adopted it. The reduction in the taxation makes it to the interest of every man to see the law enforced.

Prohibition. As I have already said, temperance enthusiasts claim more than can be accomplished, indeed they are following a shadow. But legislators wishing to gain or retain power, may yield to combined pressure and place a prohibitory law upon the statute book. Prohibition failed in the Garden of Eden; it has failed in every instance when it has been placed upon the statute book; and it must continue to fail until the ninety out of the hundred adults who use alcoholic drinks without abusing them are educated to the belief that they are committing a sin. This belief does not exist and can not be enforced by prohibition, upon the principle: take from a man against his will his freedom of action, he chafes under it and considers it a hardship. It may be asked, will any reasoning mind believe that—with the existing appetite for stimulants—a prohibitory law would or could be forced, and would not the endeavor lead to disrespect for the law, smuggling, illicit distillation and the use of other stimulants and narcotics with all their injurious consequences?

Again, if such a law existed, would it not pave the way to others equally obnoxious? The sanitarian finds it difficult to administer laws where an injurious appetite is not involved, and where the benefit applies to all. It is claimed that a prohibitory law would lessen crime and consequent expense. This is more than doubtful, for the expense of enforcing prohibition would be necessarily large.

The next question for consideration is: What shall be done with the inebriate? Medical treatment has little influence upon him while he has the ability to indulge his appetite; entreaty is useless, the tears of a fond wife are of no avail, the finer qualities of his nature are destroyed, the terrible craving for stimulants has in a great measure taken possession of his will and he pursues his course to degradation and death regardless of consequences. How the law shall deal with him is a question of great difficulty. The liberty of the subject must be guarded and the community justly claim protection from the violence of his acts.

There are two classes of inebriates; those who voluntarily get drunk, possessing the power to resist, and those who are so far lost that their voluntary power is destroyed. The first should be treated as misdemeanants, the power of the elective franchise withdrawn from them, after the second conviction, and in other ways degraded.

The involuntary drunkard, if I may so term him, should be treated as a lunatic and kept in restraint for a period sufficiently long to cure his malady; how

long that should be must depend upon those in charge of him; and when that restraint is enforced for a suitable time it is often surprising to witness the recovery of mind and body under it. It is true that the inebriate is not in the strict sense of the term a lunatic. The church looks upon him as a sinner, the state as a criminal, while the observing physician knows that he has lost his power of self-control, is ruining his health, shortening his life, squandering his property, and oftentimes in his delirium commits acts of violence against those most dear to him. It may be said that the disease was caused by his own act. True, but that does not absolve the State from responsibility. Is he dangerous to himself and others? He certainly is, and therefore he deserves the same care as a lunatic.

While restraint is necessary I deem it highly improper that the inebriate should be associated with lunatics. The government receiving a very large income from the material causing the evil should be forced to supply and support hospitals for the cure of the disease—such hospitals stand upon a different footing from others, and it is obviously unfair for the private individual to be taxed for the support of them, beyond that which he willingly pays consequent upon the tax upon the material producing the disease.

Such hospitals should be established in a pleasant district in the country, built in cottage form, so as to receive the different classes and sexes, and so fenced as to prevent escape. Those who can not pay should be compelled to work at fixed wages, the proceeds of which—deducting the amount for their board—should be paid to those dependent upon them.

The present practice of imposing a heavy fine upon the inebriate is cruel in the extreme, inasmuch as it does not fall upon the offender but upon the unfortunate wife and family, already beggared by the selfish creature's act. Again, the imprisonment imposed has the effect of recouping him for another debauch.

Dr. Norman Kerr claims that 40,000 die yearly from inebriety in London and that one-third of those could be cured by proper isolation and treatment. I take it for granted that a like proportion die in the larger towns of America. If such is the case, the wonder is that legislators hesitate about applying the remedy. Recently those in authority are becoming better educated to the necessity for spending money for sanitary purposes; surely this sanitation should appeal to the sympathy and the judgment of all.

Voluntary isolation is valueless. The inebriate, as a rule, will not enter, and when he does it is for a short period and to exercise his own judgment about leaving. In a large majority of cases a year or more is required before the individual can be pronounced well.

I have been unable to learn the laws of your country regarding inebriety. But in the Provinces of the Dominion of Canada the friends of the inebriate are empowered by law to cite him before a judge of the supreme court who, upon sufficient evidence, may incarcerate him for a year in an inebriate asylum. The judge may also appoint a committee to take charge of his estate. This is as it should be. But each province is obliged to furnish and maintain its own asylum. While the large revenue received from the importation and manufacture of the material causing the evil is appropriated by the Federal Government, the law is only enforced in those provinces where asylums exist.

Believing as I do that education and hospital isolation are the most practical remedial measures for the gigantic evil of intemperance, I appeal to the members of our noble profession, who are ever foremost in philanthropic work, to exercise the power which each and every one of them may possess toward this end. If any thing that has fallen from me has the effect of enlisting their interest in this good cause I shall feel that I have not spoken in vain.

NON-ALCOHOLIC TREATMENT OF CONSUMPTION.

Read in the Section on State Medicine at the Forty-seventh Annual Meeting of the American Medical Association at Atlanta, Georgia, May 5-8, 1896.

BY O. G. PLACE, M.D.

BOULDER, COLO.

That consumption is a disease of lowered vitality, I think, is not to-day questioned. While the tubercle bacilli is the active agent in this disease, yet observation shows us that while the body tissues are well nourished and the general vitality good, tissue cells have the power of repelling these germs, even though they may be quite plentiful in the body, but lowered vitality predisposes to tuberculosis.

Alcohol lowers the vitality of body tissue. On this point Dr. N. S. Davis says: "Alcohol is a poison and when taken into the system is not assimilated, and while passing through the body disturbs every physiologic process and is finally thrown off through the organs of excretion unchanged. Hence, if not assimilated it can not be a food, and as it disturbs every physiologic process it can not be a medicine. Therefore, if alcohol is not nutritious and serves no purpose as a therapeutic agent, then mankind should be so instructed and its promiscuous use abandoned. This work can alone be done by the medical profession."

Also the following from Dr. J. W. Squires is worthy of note: "Numerous scientific investigations by various distinguished authorities bear me out in the statement that alcohol is not a stimulant but a depressant; is not a tonic, but an anesthetic; is not a food, for it is not digestible nor assimilative; it impairs the senses, and that, too, in exact proportion to the quantity consumed."

A strong man in perfect health and strong mind will degenerate physically and mentally by a liberal use of alcohol in any form. It is true that in many cases alcohol increases the production of adipose tissue, but it is just as true that it decreases the amount of muscle. But in this case we are to choose between fat and muscle. What is the change in fatty degeneration of the heart? If adipose tissue is more valuable than muscle, why is our anxiety aroused and our advice so positive when we decide that the muscle fibers of the heart are gradually being degenerated and globules of oil are taking their place? Alcohol may and does, without question, often increase fat. Bodily inactivity will often do the same; but is a fat man stronger than a muscular man? Is a fat man more able to resist disease than a man who has less fat and more muscle? The cause of lowered vitality suggests the remedy.

That there is in all cases of consumption an unnatural and more or less rapid disintegration of bodily tissue is not questioned. Tuberculosis is a most treacherous disease and the germs are only waiting at the windows of our bodies to stealthily creep in and spoil the house as soon as by intemperance in any form, the body

has been rendered so dormant as not to repel the intrusion. In presenting the above, the point we wish to make before speaking of treatment, is that fat does not necessarily mean vitality; that adipose tissue is of a lower order than muscle; that weight and strength are not synonymous.

Hundreds of patients to-day are coming to Colorado with this advice: "Drink plenty of good whisky and keep in the sunshine and you will soon build up." The climate of Colorado does stand as the best refuge known to us for those infected with this disease. The sunshine helps to make this climate what it is, but the man who comes here with little vitality, low by disease and still lower by alcohol, and sits in the hot sun, will go down like an icicle in the streets of Calcutta in midsummer.

In the treatment of this disease better vitality is the one thing essential; oxidization brings better vitality; cold, not heat, promotes oxidization and gives tone to the body tissue. Patients must avoid the extreme heat of any country. The Rocky Mountain region is recognized as having a dry climate abounding in sunshine. It fully sustains this reputation; yet in some sections of this State, especially in the southern portion as well as other points along the foot hills south of latitude 40, there is not that cool, bracing air which is found extending farther north even into southern Wyoming.

Although there has not been discovered any specific preparation which taken internally or externally will destroy the germ, yet we believe that by proper care, combined with climatic advantages, a much larger percentage of complete recoveries may be obtained. We are convinced that tubercular patients need equally as regular management, advice and treatment as patients suffering from other protracted fevers. The following outline of treatment and general management during the past two years has seemed to bring gratifying results, and a few cases are cited below to illustrate conditions of patients and results obtained from the change of climate combined with careful treatment. The general treatment pursued has been substantially the following: All patients are kept in bed for a few days after arriving to prevent too much reaction. When there is much fever the patient is kept quiet until the temperature shows a decided drop, and remains down. The most nutritious foods are given which can be assimilated by the digestive system, paying attention to frequent change and good variety; but at the same time caution against "stuffing." When the temperature rises above 100.5 F. we have employed the moist compress, enveloping the whole chest and so adjusted as not to allow the air to pass under it. This is held firmly in place by another dry covering made of cheese cloth, which is wrapped about the chest and over the shoulders, completely covering the moist one and holding the same close about the chest. When this compress is removed in the morning, unless the patient is liable to chill, a cool, wet hand-rub is given by a skilled attendant, who follows it by a light, medium or thorough massage, according to the patient's condition and the prescription given in each case. In this way the circulation is well started just at the time when the temperature is generally the lowest.

The object of this treatment is two-fold, for its tonic effect on nutrition and its antiperiodic effect on the nervous system. For it is well known that in any fever if the periodicity can be broken or modified by anticipating the chilly stage by a thorough warming of the body the chill is markedly decreased, and the fever is in like proportion lessened. The patient is especially protected and kept warm in the morning, but allowed to be out much in the cool air a little before time for the temperature to rise. When there is a tendency to night sweats a hot vinegar or salt sponge will usually control this and so quiet the patient as to induce sleep. From 5 to 30 drops of creosote by enema is also given in an emulsion of oil of sweet almonds and the yolk of eggs three times a week. General treatment by an attendant is given, such as light massage, electricity, dry or wet hand-rubs or sponges, according to the strength and reactive powers of the patient.

In cases where there is thickening or much accumulation of secretion in the smaller tubes or air cells, we have used quite liberal inhalations of ozonized oxygen, which serves to loosen up and clear out such exudate more satisfactorily than perhaps any other one measure. This gas acts upon the pus and exudate ina similar manner as dioxid of hydrogen would, but in a very mild manner; the results can be governed at will by regulating the quantity of gas inhaled. Ozone can be produced quite readily by whipping pure oxygen in the static flame generated from a large coil attached to a dynamo producing the direct current. Any coil which is strong enough to throw a ten-inch spark will produce a liberal amount of ozone by using the silent discharge, but not the spark.

In cases where the bowels are especially involved and there is much pain and looseness, we have been able to control both quite readily by the moist abdominal girdle, protected as for the chest, the use of hot applications over the bowels and hot starch enemas. In mild cases, usually the girdle will relieve in a few hours; in more severe cases, each or all of the above measures may be required. We find it necessary to keep patients quiet while the temperature is high.

The following cases taken from our book of records without selection, and including all tuberculous patients who entered during twelve weeks ending September 31, will give an average result from the employment of the above outlined treatment:

Case 1.—July 3, Miss F. B., aged 20; home, West Virginia; heredity, tuberculosis. Patient has been failing for a year, cough for past three months. When received had a very distressing cough, raising heavy yellow sputum; test showed tubercle bacilli; temperature 101.5 degrees. Quite extensive thickening in right lung and râles in both apices. Treatment as indicated above. Result: Patient began regular work as a nurse in one month, in three months all indications of thickening had disappeared and the temperature was normal. She had gained eighteen pounds in flesh and no return of any symptoms to date, and yet regular work has been continued since the first month.

Case 2.—F. T. J., aged 21, Iowa. Grandfather and grandmother died of consumption. Patient never very strong. Condition at examination: Left lung, lower lobe, solidified; upper lobe much thickened, with râles quite general; temperature 101 to 103 degrees, with chills. Patient gained during the first three months fifteen pounds. Temperature normal, but lower lobe did not entirely clear up. Was quite well until he took cold about three months ago, which again caused much thickening in the left lung. Patient at present has some fever, but is making a slow but steady gain. Temperature now about 100 degrees.

Case 3.—Mrs. J., aged 19, sister of above patient. Large cavity in upper lobe of right lung, lower lobe consolidated; left lung slightly thickened; not able to walk; temperature 102 to 103; chills, no appetite, bowels tender and loose, profuse night sweats. Patient made a steady gain for five months. Left lung gave no signs of further infection; right lung still slightly thickened but no râles; temperature normal; cavity contracted. March 1 patient was discharged from treatment,

but advised to remain in Colorado. Five days later took a severe cold from exposure, contracted pneumonia of the left lung and died the following week.

Case 4.—Capt. B., aged 60, Iowa. Grandfather died of consumption. Patient suffered since the war with stomach and bowel trouble. Pneumonia two years ago, involving the left lung; marked pleuritic effusion. Physical examination showed left lung to be practically consolidated, with breaking down near the apex, forming a small cavity. Examination of sputum showed tubercular bacilli in large numbers. Had three severe hemorrhages. Temperature on entering 100 to 101.5. Has had two quite severe hemorrhages while under treatment, but is now gaining in flesh and strength. Temperature now normal both morning and evening. Especial attention has been given in this case to the digestive system as well as to the lungs.

Case 5.—Aug. 20, 1895; Miss C., Michigan, aged 26. History, always delicate, troubled with enlargement of the glands of the neck for fourteen years; have been removed twice; was sent to Colorado by physician two years ago after having two hemorrhages. Made a very satisfactory gain for several months when she had what she termed "grippe." In my judgment, many of the so-called cases of "grippe" are simply an acute attack of tubercular invasion; that is, in these cases which later develop tuberculosis. Examination on entering our institution showed the left lung thickened, especially in the lower lobe, with only fine crepitant râles and little, if any, normal vesicular sounds. The upper lobe showed decided signs of softening near the apex, and either dilated tubes or a small cavity. The temperature varied from 101 to 103.6 during the first week. The ozonized gas was used carefully, and the exudate was quite readily cleared out of the lower lobe, but the indications of a cavity still remained near the apex. Patient has gained and lost at times, but on the whole is at present about as when we first examined her, except that the lung has cleared up almost entirely. Is still under observation but not treatment.

Case 6.—September 1, Miss E., aged 24, Michigan. Patient never strong; had two hemorrhages about eight years ago; began to decline about one year ago; sputum tested and the bacilli found; sent to Boulder by her physician. Physical examination showed marked thickening near apex of left lung with moist râles. Temperature varying from 100 to 101; no night sweats; annoying cough. Treatment pursued as given above and patient after two months showed no evidence of the thickening; temperature normal; no cough; had gained twelve pounds in flesh and has since worked continuously and no indications of return of the disease.

Case 7.—Mrs. W., aged 34, New York. Father died of consumption. Patient well up to about five years ago, then had pneumonia; has had seven hemorrhages; coughed most of the time for the past five years; has been failing for the past two years; shortness of breath, very nervous and appetite poor. Physical examination revealed general thickening and moist râles throughout both lungs with friction râles on right side. Temperature varied from 99 to 100 during the first week. Especial attention was given to diet and treatment. She was kept absolutely at rest for one month, after which she took some exercise, and for the past three months has been working from six to ten hours per day and her temperature has been normal for over two months. Much of the thickening has been cleared out and the râles have nearly disappeared. The patient was discharged about one month ago, but advised to stay in Colorado the remainder of her life.

Case 8.—September 10, Miss M., Indiana, aged 32. Heredity good; had what she called la grippe four years ago, since which time has had two hemorrhages with cough. For past year has had a persistent cough and throat remains irritable and husky. Physical examination showed general thickening of the right lung with mucous râles in upper lobe. The ozonized gas was used quite freely in her case with other treatment, and November 28 she was discharged with only slight indication of thickening in the back part of the middle lobe of right lung. Temperature had been normal for several weeks.

Case 9.—Sept. 12, 1895, Mr. T. M., aged 20, Iowa. One sister died of consumption. Patient in fairly good health up to about one year ago, when he "took a severe cold;" had pain in lungs and after the "cold" was relieved noticed a shortness of breath with cough. Sputum was examined and tubercular bacilli found. His physician advised him to go to Colorado by wagon; the trip was very tiresome and patient lost much strength and flesh while on the road. He was put under treatment at our institution September 12. Physical examination showed the upper lobe of the left lung softened and the whole lung thickened, with crepitant râles in lower lobe. Temperature first week varied from 101 to 103.6, with chill daily. Patient was kept absolutely quiet, the cool compress kept constantly about the chest. The ozonized oxygen was freely used, about ten gallons twice daily. Later took careful exercise and spent much time on the verandas and in the sun when not too warm. The appetite was very poor, bowels tender and the patient much emaciated. Patient was discharged from treatment Dec. 10, 1895, after having gained twenty-two pounds. Appetite good, and but slight thickening in upper portion of left lung.

Case 10.—Mr. W., aged 23, New York. One sister died of consumption. Had been running down for about a year; slight, dry cough at first, gradually grew more troublesome. Physical examination revealed marked thickening of upper lobe in right lung and some considerable infiltration into the small tubes of the lower lobe. Chills daily in the morning, with a rise of four degrees of temperature by 2:30 P.M. Tubercle bacilli found on examination; considerable expectoration. Temperature gradually lessened under treatment and patient was discharged December 1, to all appearances well, but advised to remain in Colorado for one year at least. Two months later he passed an examination for life insurance, and has, to the present time, shown no indications of any return of the trouble.

The above ten cases are taken without selection, in the order in which they entered our institution. We are convinced, after watching a large number of patients in Colorado, that tuberculosis is curable in a large percentage of cases and without alcohol, provided the same study and care is employed with these cases as with other patients suffering with infectious fevers.

REMARKS ON THE MANAGEMENT OF GLAUCOMA.

Read before the Michigan State Medical Society,

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The literature of glaucoma is honeycombed with doubt and contradiction. If a writer advances a theory of its causation, others demonstrate its inadequacy; if one presents a pathology, another proves it incomplete; if one proposes a plan of treatment, others shortly affirm that they have tried the plan and found it wanting. One cures his cases by iridectomy; another by sclerotomy posterior; another by sclerotomy anterior; another by internal division of the sclerotic at the angle of the anterior chamber; another by division of the ciliary body; another by corneal punctures; another by myotics; others make a selection from these several modes of treatment according to the case in hand. This is a rational method, but as no two make the same selection the seeker for practical directions in treating a case of glaucoma must sift his own data and follow his individual judgment.

If the eye could be taken apart and studied during the very early manifestations of the disease, we should more directly attain that knowledge which shall unite all discords into one consistent tune. As a fact, we are compelled to wait till the eye is blind or the patient dies from some intercurrent disease, for a chance to study the actual changes in the eye made by glaucoma. Experiments upon the eyes of lower animals are utilized to fill this gap in our knowledge, but these are always discounted by the doubt as to the extent to which they represent the reactions occurring in the human eye during the progress of a case of glaucoma. Then cases of glaucoma are rare, so that an individual observer has relatively few with which to pursue his practical studies. Worse still, of the cases he does see, few are within his observation during the entire course of the disease. In spite

of these and many other obstacles, the management of glaucoma is progressively more satisfactory; what can be, is more definitely separated from what can not be done and a clearer light illumines the entire subject.

On one point all agree—normal ocular tension should be restored at the earliest possible moment, because an increase of intra-ocular tension is to the contents of the eyeball what a strangulation is to the intestine in a case of hernia. Von Graefe first proved that iridectomy would cure some attacks of glaucoma, a discovery of inestimable value. Added experience has shown that an iridectomy will not cure all attacks of glaucoma, or all stages of any one attack; that it is useless to stay the progress of some, and absolutely hastens the destruction of the eye in other cases. Yet with all its limitations it remains *the* remedy for attacks of glaucoma with increased tension. The cause of this increased tension has been the occasion of a vast amount of research. Present facts seem to support the following as the chain of events leading to an attack of glaucoma:

Normally the fluids secreted in the posterior chamber of the eyeball escape through the cribriform disc of the optic nerve and the suspensory ligament. From the anterior chamber the outflow is by the anterior angle through Fontana's spaces and the canal of Schlemm, thence through the sclerotic to Tenon's capsule. The spaces through which this outflow occurs are in connective tissue and devoid of epithelium. Hence the fluid has a constant contact with the connective tissue fibers of the suspensory ligament, optic nerve and angle of the anterior chamber. If this fluid becomes abnormal and remains so during long periods, the connective tissues through which it flows must undergo changes. If the fluid be defective in nutritive materials and loaded with irritative elements it is clear that ultimately the connective tissues through which it passes must undergo degeneration. Such changes in the secreted fluid of the posterior chamber may be expected when the blood constantly supplied to the chamber be what is known as "dirty" blood. Such blood is found in numerous diseases, as gout, rheumatic gout, syphilis, imperfect digestion from either bad food, or good food taken in excessive amounts. After a time the degenerative process in the connective tissue outflow spaces of the posterior chamber becomes so advanced, as to no longer suffice for the free transmission of the fluid secreted in the posterior chamber. If now this fluid be changed by a disturbance of the secreting vessels, through the nervous, muscular or digestive systems, we may have the outflow spaces absolutely closed, and an acute attack of glaucoma. Dr. Richey has especially emphasized the origin of glaucoma through the operation of "dirty" blood.

Knies has experimentally shown that the composition of the fluid in the posterior chamber may be so altered as to effectually clog the outflow spaces, both anterior and posterior, when the connective tissues are perfectly normal. Much more will such changed secretion clog the spaces when they are diminished in size and altered in character by degenerative processes. Thus glaucoma is a chronic constitutional disease, with occasional local outbursts in the eye due to obstruction of the outflow spaces. Generally ophthalmologists have called the local outburst glaucoma, and devoted their exclusive attention to its management. Evidence is accumulating to indicate that it is a part of wisdom to treat the general constitutional dyscrasia that produced the local outburst, in the expectation that the local treatment will prove more satisfactory and future outbursts prevented.

Simple glaucoma has little to distinguish its presence in many cases, other than diminished visual field and excavation of the optic nerve. Under the operation of the constitutional dyscrasia the connective tissue of the optic nerve loses its power to hold these fibers in place, so that with the central retinal vessels they drop into the hole. The peculiar appearance of the blood vessels at the sides of this hole make it quite easy to recognize with the ophthalmoscope this excavation. If the anterior connective tissue spaces have escaped the ravages of the dyscrasia no other symptom may attend the case from beginning to end. But if the anterior spaces become involved, other symptoms of more or less gravity will appear. Without these latter the management of such a case is wholly constitutional, as there is no reason to suppose that either operation or medical treatment, locally applied, will avail. To secure such habits of life as will insure an abundant supply of pure blood to every portion of the body, including the eyeballs, will afford the patient the best chance of retaining vision for the longest period. It is surmised that some of the cases in which iridectomy was followed by an immediate reduction of vision belonged to this class. But most cases of simple glaucoma, at some time in their course, present other symptoms, as increased tension, diminished field of vision, dilated pupil, pain, etc. These call for local treatment, surgical or medical, or both. Typical of the first is iridectomy; of the second eserin.

As to the value of iridectomy in chronic simple glaucoma, the studies of Dr. C. S. Bull (Trans. Amer. Oph. Society, 1889) are very conclusive. He gives the history of ninety cases treated during a period of seventeen years, all of which he was able to study for a considerable period after operation.

Vision was temporarily improved in two cases in both eyes, in six cases in one eye; but in all the eight cases a steady loss of vision and a narrowing of the visual field set in and continued progressively so long as the patients remained under observation. The vision remained unchanged in eight cases in both eyes; and in twenty cases in one eye. Vision grew steadily worse in forty cases in both eyes, and in forty cases in one eye. Vision grew rapidly worse after operation in two cases in both eyes, and in one eye in eight cases. Of the one hundred and eighty eyes, only ten eyes were at all improved by the iridectomy, and these steadily grew worse. In thirty-six eyes the vision was unchanged for a year after the iridectomy. In one hundred and twenty eyes, vision grew steadily worse after iridectomy, while in twelve eyes vision grew rapidly worse after iridectomy. It is thus clear that in chronic simple glaucoma iridectomy is far from a brilliant success.

Of the comparative value of eserin and iridectomy in simple glaucoma, an excellent study is given by Drs. Zentmayer and Posey (Will's Eye Hospital Reports, Vol. 1). One hundred and sixty-seven cases are reported from the service of Drs. Norris and Oliver.

Sulphate of eserin was used in all cases when well borne and was continued for years. At first the doses were small, being increased or diminished according to results. The cases irritated by its use were treated

by iridectomy. When well borne it improved central visual acuity in 62.16 per cent. of cases, while it retained vision unaltered in 21.62 per cent.; in 16.21 per cent. it was powerless to prevent decrease of vision. In 85 per cent. of the cases it diminished intra-ocular tension. The visual field improved in 50 per cent. of the cases; remained stationary in 18.75 per cent., and steadily diminished in 31.25 per cent.

When well borne, eserin kept the fields improved ten months, and vision fifteen months. In cases not improved fields remained stationary for three months; vision for thirteen months.

Iridectomy improved 60 per cent. of cases; did not change 20 per cent.; failed to prevent loss of visual acuity in 20 per cent.; diminished it in 10 per cent.

Tension improved in 90 per cent. of cases. The improved visual field lasted on an average eighteen months; the degree of visual acuity twenty months after iridectomy.

The facts show that it is advisable to employ eserin, when well borne, for a month; if the field of vision has diminished nothing further can be hoped for from eserin, and an iridectomy must be done. If there be an improvement of the visual field, eserin should be continued, as there is reason to expect a beneficial action for ten months upon the extent of the visual field, and fifteen months upon the visual acuity. In half the cases we may expect iridectomy will check the course of the disease for eighteen months. Ten per cent. of the cases will not be benefited by either eserin or iridectomy, or both. Both successfully reduce intraocular tension. Thus in simple glaucoma we have the following elements of management:

1. In every case make the nutrition of the entire body as perfect as possible, by removing defects of excretion or secretion; disturbances of digestion; constitutional dyscrasias, as gout, rheumatic gout, syphilis, etc. Medicines avail much, but wise regulation of diet, exercise, sleep, bathing, etc., will generally be most efficient.

2. Place the affected eye under the influence of eserin, if well borne, and keep it there so long as it controls the tension and prevents a diminution of the field of vision. This failing,

3. Do a large upward iridectomy, and follow with eserin, if well borne, while any manifestations of the attack continue. This failing, a sclerotomy anterior may be done.

4. Correct and keep correct all defects of refraction and muscular balance.

Acute inflammatory glaucoma presents a remarkable likeness to acute inflammatory gout, just as simple chronic glaucoma resembles rheumatic gout. The following is given because the attack could be studied from inception to close.

On March 29, 1880, Dr. Fletcher placed in my care a boy, aged 15, suffering from an injury to his left eye by an exploded gun-cap. The eye was operated upon and the wound treated at a hotel under the care of his father, a man 45 years old, of unusual intelligence. Aside from a history of sub-acute rheumatism, this man's general health had always been good. His eyes were astigmatic, hyperopic and presbyopic, though he wore a simple spherical glass to correct the same, selected by a jeweler. While watching his suffering child, he read much in a poor light. On the morning of April 3, five days after coming to Detroit, he complained of slight discomfort in his left eye, and thought that at times his vision was dulled. A careful study of the eye revealed a slight intra- and extra-ocular congestion, with a trifling increase of tension. A saline cathartic was administered; a soothing lotion applied hot to the eye at short intervals; the eye protected from bright light and small doses of quinin administered internally. On the following day the eye was worse in all respects; the pain in and about it had become intense; the pupil dilated and very sluggish; the tension plus 2; the field of vision contracted; the cornea insensitive; the anterior chamber very shallow; the iris crowded into the anterior angle which was filled from behind with the ciliary body; the anterior ciliary vessels much dilated and the entire circumcorneal margin of the sclerotic covered with engorged blood vessels; the fundus oculi was engorged, the optic papillæ being considerably swollen; the retinal arteries pulsated on the slightest pressure of the eyeball. Patient could not count fingers and complained of flashes of light, when the lid was closed, and rings about the light when the lid was open. Thus we had a case of typical acute glaucoma. To reduce the intense congestion, several ounces of blood were at once abstracted by an artificial leech from the temple, relieving the pain and reducing the tension. A drop of a two grain solution of eserin was placed in the eye every hour while the pupil remained dilated. Previous to each dose the eye was soaked in hot water for five minutes. These measures so modified the attack that the patient was more comfortable on the following day, but the tension was still above normal; the fundus could not be seen with the ophthalmoscope, and the eserin had failed to keep the pupil contracted. Iridectomy was now urged, but rejected. Local abstraction of blood was repeated, a saline cathartic given, and the other treatment continued, but with less effect than on the previous day. Iridectomy was urged at each visit, but rejected till the sixth day. Then vision was reduced to a mere perception of light; the media cloudy; pupil widely dilated; iris immovable; anterior chamber very shallow; cornea steamy and insensitive; great circumcorneal injection and very severe pain. Because of the shallow anterior chamber a Von Graefe's cataract knife was used to make the corneal incision, which was done upwards so as to admit the removal of a full third of the iris. This was drawn out of the wound by the iris forceps, till it was placed upon the stretch and then divided by Wecker's scissors, close to the sclerotic. The angles of the wound being freed from the remaining iris the lid was closed and protected from injury by a light bandage. The little aqueous which escaped had a straw-like color. The pain immediately disappeared never to return; the wound healed kindly, the vision gradually improved until it equals that in the other eye, and the entire eye resumed its former condition, aside from the mutilated iris. The cure of the attack was complete.

To prevent future attacks the following measures were adopted: His defects of refraction were fully corrected and the correction glasses ordered worn constantly. He was placed upon a diet and habit of life, such as would tend to eliminate the arthritic taint, and appropriate remedial agents were ordered. There was no recurrence of the attack in the left eye, nor did one develop in the right eye. The case remained cured during many years till his death.

In this case we have an arthritic disorder existing long anterior to the acute attack of glaucoma, in a

man who had reached middle life, suddenly subjected to intense mental worry and marked eye strain. Without the last two factors he might have escaped the attack, but with them the secretion of the vitreous was so modified as to clog the connective tissues of the suspensory ligament and optic disc. This was followed by an accumulation of secretion and enlarged blood vessels in the posterior chamber which pushed forward the ciliary body, the lens and iris, and forced the aqueous out of the anterior chamber. An iridectomy removed this obstruction to such a degree as to admit of the normal circulation of the intra-ocular fluids. No doubt the sudden change in the tone of the intra-ocular blood vessels modified the changes described.

The management of acute inflammatory glaucoma by constitutional remedies, eserin and iridectomy, is satisfactory to patient and surgeon if it can be applied promply at the onset of the attack. Sub-acute glaucoma differs mainly in degree from the acute. We find moderate degrees of vascular obstruction and some sharp pain; an enlarged and sluggish pupil; increased tension; shallow anterior chamber; hazy vitreous; pitted optic disc, in varying degree. The following abstract of a case places it fairly before us.

Mrs. F., age 70, seen first Oct. 22, 1885, a large fleshy person of Hebrew extraction, and for many years a more or less constant sufferer from rheumatic gout, but otherwise perfectly healthy. At a period prior to her visit to me she had noticed occasiona obscuration of vision, a little redness of the eyes; rings about lights; and some pain. At first the attacks were infrequent, but of late they occurred almost daily, and vision of right eye was 10–200, of the left 6–200; pupils widely dilated and almost immovable; aqueous cloudy; tension of right eye 2 and left eye 1; fields of vision greatly contracted; much circumcorneal injection and enlargement of the anterior ciliary vessels.

She was given a mercurial cathartic followed by full doses of salicylate of soda; her diet regulated so as to secure the best possible digestion; her skin and bowels were also so stimulated as to enable them to perform their normal functions. Locally, eserin, one grain to the ounce, was dropped into each eye every hour till the pupil contracted, and then as frequently as was needed to keep it moderately contracted. Before using the eserin the eyes were bathed in hot water for five minutes each. On the following day all symptoms were improved and in two weeks the eyes had become nearly normal in appearance, aside from the cupping of the optic discs. On correcting the hyperopic astigmatism and presbyopia her vision was right eye 20–40, left eye 20–50 and she could read Jaeger number 2 with each eye.

On recovering from the attack she was directed to wear the correction glasses for her ametropia constantly; to continue her anti-gouty diet and mode of life, and to use a weak solution of eserin once daily, if the eye seemed at all uncomfortable. She has been faithful in following directions, and ten years later reported no return of the disease, and fairly good sight.

I have met many cases from syphilis, that were successfully managed by the use, in a vigorous manner of antisyphilitic in addition to the local treatment. But in other cases such treatment fails and resort must be had to iridectomy. If the cases can be kept under close observation, and the fields of vision do not diminish, and other symptoms improve it is safe to wait till eserin and constitutional agents are clearly futile, ere doing an iridectomy. But if the case can not be carefully watched the iridectomy should be done without delay—except in case of a degenerated iris, when the operation is disastrous.

Absolute glaucoma presents a notable picture: eyeball of stony hardness; devoid of all expression; blindness complete; pupils widely dilated and immovable; pupillary space filled with the glistening opaque lens; sclerotic of marble whiteness streaked with the tortuous and enlarged ciliary vessels; the glaucomatous process has done its worst. No treatment remains except such as will render the patient more comfortable, which may necessitate a sclerotomy or an iridectomy or enucleation.

We can not speak of glaucoma which is secondary to other local diseases or injuries in the eye; each of which must be managed according to its specific indication, the object in each case being the restoration of a normal circulation through the chambers of the eyeball. Pertinent to the management of glaucoma, is a brief note on the technique of the operations for its relief. In glaucoma the iridectomy differs materially from that done for optical purposes in that it needs to be as large as possible, and the iris removed close to its scleral attachment. Owing to the shallowness of the anterior chamber, great care is needed in making the corneal section, to avoid wounding the lens; otherwise grave consequences follow. I have found the use of Von Graefe's cataract knife most suitable for this purpose, as by it one can skirt the angle of the anterior chamber, keeping in the sclerotic, and make a section as large as desired. The incision should always be made in the sclera.

When the anterior chamber is nearly normal, the lance shaped knife may be employed, or the Graefe knife, used as in making the incision for cataract extraction. It is desirable to make the withdrawal of the knife so slow as to avoid the sudden freeing of the tension of the posterior chamber. On completion of the section, the iris is seized by the forceps and drawn till it is fully without the eyeball, then divided close to the sclera. Especial attention is given to the edges of the wound that they do not retain any of the remaining iris. Formerly a general anesthetic was required but now cocain suffices if the patient be controllable.

Anterior sclerotomy is possible only when the pupil is contracted and the anterior chamber of nearly normal depth. A Von Graefe's cataract knife is introduced about two millimeters above the horizontal margin of the eye and a counter puncture made directly opposite. By gentle movement the blade of the knife is made to cut its way, till it has nearly reached the surface, when its withdrawal completes the operation. This operation is called for in cases threatening hemorrhage, or after iridectomy has failed. Posterior sclerotomy is done by opening the sclerotic between the lower and external recti muscles, and posterior to the ciliary processes. The blade of a Von Graefe's cataract knife having been entered horizontally through the sclerotic,is turned at right angles and slowly withdrawn. Some fluid or vitreous may follow this operation, and the tension of the eyeball reduced so as to admit of an iridectomy which otherwise could not be correctly done. Numerous other operations have been done for the relief of glaucoma; thus a large portion of the sclerotic at the anterior angle has been

divided from within and good results reported; th ciliary body has been divided; the cornea has been punctured at each end of the vertical and horizontal meridians; the supratrochlear nerve has beenstretched. But after all iridectomy furnishes in the ordinary case the largest hope of relief.

Lately Dr. Gould has proposed the use of massage of the eyeball for the purpose of freeing the outflow spaces of the debris clogging their meshes. He reports one case in which the results at date of writing were satisfactory. To a certain extent all the operations mentioned, exert a massage at the point of greatest obstruction, and doubtless, in this way produce their effects.

Dr. Pilgrim lately advocated with much show of reason the local use of the galvanic current placing the negative pole over the affected eye and the positive at the nape of the neck. In three cases of acute inflammatory glaucoma he reports the happiest results. He thinks that the current modifies favorably the obstructing fluid, and the obstructive connective tissue at the outflow spaces.

My own experience supports the claim of Dr. Sutphen, that salicylate of soda often relieves the severer pain of glaucoma, and accords with the fundamental idea of this paper, that the foundation of glaucoma is a constitutional dyscrasia, which should be sought out in every case and removed so far as possible.

CONCLUSIONS.

In the management of glaucoma, such attention should be given the bowels, skin and kidneys as to secure the most prompt and complete elimination of the effete tissue metamorphosis. The diet should be so regulated as to admit only such articles and in such quantities, as can be perfectly digested. The liberal use of water internally and externally greatly assist in restoring the fluids of the body to a state of reasonable purity. The continuance of such diet and mode of life affords the largest hope of preventing future glaucomatous attacks.

Such medicines should be employed as are called for to remove the constitutional dyscrasia found in each case, as arthritic, gouty, syphilitic, etc.

In simple glaucoma with no increase of tension such treatment may suffice; but should there develop increased tension, diminished visual field, pain, shallowed anterior chamber, myotics should be first employed(if they can be constantly watched) and if they keep the symptoms under control, nothing farther is called for. But if they are not well borne, or if at the end of a month, the visual field has diminished, then an iridectomy should be done. If the tension still persists, a sclerotomy should be performed and myotics again employed.

In acute inflammatory glaucoma, the tension must be promptly reduced by general treatment and myotics if possible, but if these do not act immediately in reducing the ocular tension and in keeping it reduced, an iridectomy must be promptly done.

Sub-acute glaucoma is managed along the same lines as the acute except that operative action may be delayed a longer time, though the rule should not be deviated from which demands an iridectomy in all cases that grow worse under general management and myotics.

Chronic glaucoma is managed in the same manner as the sub-acute except that iridectomy is contraindicated in cases of degeneration of the iris, the results of the operation in such cases being unfavorable.

Absolute glaucoma is treated only to relieve pain, if salicylate of soda fails, the treatment is exclusively surgical, sclerotomy, iridectomy and enucleation.

Hemorrhagic glaucoma is rarely benefited by any operation, owing to the weakened condition of the blood vessels within the eyeball. Hence if genera- and local medication fail, and pain persists, enucleation is the only resource.

Secondary glaucoma calls for specific treatment according to the condition inducing it. If it be an intraocular tumor, enucleate the eye; if it be lens swollen from discission, extract the same and so through the list.

Finally, he who would do the most for a case of glaucoma, must not only be able to quickly detect the disease in the form of its acute exacerbation; to apply the local remedies or do the operation which will quickest and surest restore the normal intraocular currents; but he must be able to recognize the constitutional dyscrasia, underlying such acute attack and put in operation the wisest measures for its mitigation or removal.

103 Cass Street.

HYGIENE OF THE EYE.

Read before the Medical Society of the District of Columbia.

BY CLARENCE R. DUFOUR, PHAR.D. M.D.

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WASHINGTON, D. C.

The many cases seen in private and hospital work, which earlier could have been more effectively treated, if not entirely cured or corrected, and the earnest desire to obtain the coöperation of the general physician is my only excuse for bringing this subject before this society. As a rule, healthy parents beget healthy offspring; therefore, that the eyes may be free from disease and have perfect vision, the parents should live such lives as will conduce to health, that their children may be perfect physically and mentally; there should be legislation preventing marriage and intermarriage between those suffering from disease that may be transmitted to their children. The disastrous effect upon the eyes by syphilitic heredity is well known, also that of consanguinous marriages; in the first class we find various inflammatory conditions of retina, choroid and cornea; in the latter class we frequently find retinitis pigmentosa and sequelæ. One disease that is responsible for a large percentage of blindness and which costs the government millions of dollars annually for support of the blind, is ophthalmia neonatrum, but owing to the unceasing efforts of physicians this disease is becoming rare. Several States have laws making it a penal offense for nurses or midwives to neglect reporting a case of sore eyes in infants which they alone have attended at birth. I have seen the gradual decrease of this disease in the clinics with which I am connected. It is the class of persons who, from their mode of living and lack of hygienic surroundings, and often want of medical attendance, whose infants are more liable to this and other ocular diseases. These people still need educating as to the necessity of applying early relief in all eye inflammations and affections. As a rule, when they seek advice much damage has been done, which is almost, if not entirely, irreparable; as a result of

this we find many cases with all sizes and shapes of opacities of the cornea, disfiguring it and interfering more or less with vision; there is not a day that we do not meet men and women with eye affections which could have been remedied by early treatment. Children have been allowed to grow up with affections of the eye which handicap them in their studies. The failure of those having the children in charge to have all ocular troubles treated in their incipiency is due either to ignorance or indifferenee.

By the adoption of the Credé method of dropping a 2 per cent. solution of nitrate of silver into each eye of the newly born infant and by the adoption of scrupulous cleanliness to avoid reinfection, ophthalmia neonatorum can be prevented. So it is possible to prevent the disastrous effects of purulent ophthalmia, of iritis, keratitis and other ocular diseases by early and prompt treatment.

It is no uncommon experience of the ophthalmologist to have patients brought to him who are past the period when treatment will be of benefit. Recently I have had two such cases brought to my service at the Eastern Dispensary, one a colored youth who had cyclitis of both eyes, which developed into a panophthalmitis, with total destruction of both of them. This case was seen by one of our general practitioners during the period of intense inflammation, and who instructed him to apply at the dispensary, but he refused to go. He will always be a charge upon his friends or the community, perhaps both. I shall not be surprised at any time to see him among the many who are daily soliciting alms on our thoroughfares. The other case was one of purulent ophthalmia, which was treated at home by his people; the result was total destruction of the affected eye. Neglect of the eyes in infancy or at an early age is often the cause of poor eyesight; they are more sensitive to light than at mature age; children are often taken out of doors with their faces unprotected from the bright sunlight, or are allowed at night to stare at the gas or lamplight for hours; this is all wrong; the child's eyes should be protected from the glare of light of any kind; also from dust and other irritating substances and from atmospheric changes. Should this be neglected an impairment of vision may result. As they arrive at the age of 6 years, the age at which they begin school, their eye work should be regulated by their physical development; it would be better to educate them by the kindergarten method and by object teaching until they are about 10 years of age; their eyes would be in better condition to stand the work to be put upon them in the future. In a report of the public schools of one of our cities I found for the year 1893 that of the total attendance, 69.63 per cent. were in the primary grade; the ages of this grade ranged from 5 to 10 years; 26.06 per cent. were in the grammar grades, and only 4.31 per cent. were in the high school. By these figures it was seen that a little over 50 per cent. failed to enter the grammar grades; the average age at that time was 10 years; at the termination of the grammar grades 71.68 per cent., more than three-fourths, failed to enter the high school; the total loss between primary and high school was about 96 per cent.

The question naturally arises as to what is the cause of this loss and why so few enter the high grade. Removals, sickness and death are factors in causing these results, but are they the sole causes? Many may be taken from school because tneir parents think that it is necessary that they receive only sufficient education to enable them to read and write and perhaps have a slight knowledge of arithmetic. Still, if this be so, there are others who fail to enter the higher grades because of their inability to keep up their studies. Many of them are not in full vigor of health, are weak and poorly nourished, have bad hygienic surroundings, and their whole aspect is one of lack of nutrition. These children, as a rule, also suffer from defective vision. Not only from this class are those who drop out of school or keep up in their studies with difficulty, but we find them among the healthy and well nourished; the reason of this is that having some visual defect they can not do their work without such physical discomfort that they finally yield and leave school. The children at our public schools are kept too continuously at work, long lessons are assigned them for memorizing, and the general curriculum, especially of the grammar grades, is one liable to produce eye strain and mental fatigue. I think we should have some legislation compelling an examination of the eyes of all children at the time of their entrance to school, and as they progress and reach the higher grades there should be some method whereby a supervision of their eyes could be maintained. Their studies should be regulated so that the hours for home study would not be too long. The lessons given in the eighth grade and high school in this city are, in my opinion, too long; the brightest and best scholars are compelled to begin their studies in the early evening and continue them until 10 and 11 o'clock in order to complete and memorize them; the effect upon their eyes is bad, and not only upon them, but upon their general health. It is no uncommon experience to be told by parents that their children's eyes and health began to fail after their entrance into the grammar grades of our schools. We need more physicians on our school boards who will take an active interest in all matters pertaining to the education of our children, such as the amount of work to be done daily, the arrangement of desks, light, ventilation, etc. They are better qualified to regulate such matters than any other class of persons, and I think that the country at large would be better served had we more physicians to represent us in the different legislative bodies of the United States. The city of Washington is fortunate in having so many of its prominent physicians actively engaged in endeavoring to secure such legislation as will be of great benefit to the city and its entire population. Poor light is a factor in producing eye strain, therefore, particular attention should be paid to the manner of allowing the light to enter the school room, it should not be allowed to shine directly in the faces of the scholars, but, if possible, from behind them. The walls of the school room should be painted some neutral tint, thus doing away with the white walls, the glare from which further contracts the pupil, already contracted by the effort of accommodation. When we remember that the contents of the eye is really a liquid, and that we have six muscles attached to it externally, we can readily see that a strain of this character together with the effect of poor light and the dependent position of the head usually assumed in studying, will tend to produce myopia, which will, as a rule, increase as the child advances in its studies and keeps pace with the higher education of universities and colleges. The effects of a high degree of myopia are sometimes very grave, complete blindness of one or both eyes

ensuing from detached retina, stretching of the percipient elements of the eye, etc. Divergent strabismus is mostly associated with myopia, and if not early corrected by glasses and an operation, if necessary, the sight of the diverging eye may become permanently impaired. Parents and others having children under their care have a great responsibility upon them; these children are to be the bread winners of the coming generation and everything should be done that they may enter their respective vocations of life in as perfect physical and mental condition as possible. We need the coöperation of the family physician in this, as he is usually the one from whom advice is first sought, and it is he also who is to advise the parents to have all abnormal conditions of the eyes promptly treated.

Another condition from which children and adults suffer is hyperopia, so-called far-sightedness. This I believe to be the normal condition of the human eye. Prof. Jaeger of Vienna examined the eyes of a large number of new-born children and found nearly all of them hyperopic. This condition is due to the shape of the globe, it being too short antero-posteriorly, the rays of light that enter the eyes do not focus upon the retina, but behind it, so that in order to sharpen the vision the ciliary muscle is called into action, to make the lens more convex, thus practically elongating the globe, that the rays may focus upon the proper place, the macula. This constant effort of the ciliary muscle, which should only be brought into action for near vision, will cause headaches, pain in the eyes and other distressing symptoms, and often affects the entire nervous system and general health; the nervous system is kept under constant strain by the effort of the eye muscle endeavoring to secure perfect vision; general character and disposition are frequently affected by imperfect sight. Children often appear dull and stupid from this cause, if they are compelled to use their eyes for long and close work, in the glare of too much light or insufficient illumination. As long as they have out-door work and their physical condition is good, they suffer little if at all. Children with hyperopia will find that by squinting they can see more distinctly; they will not squint constantly at first, but only when looking at near objects, and sometimes when looking at a distance; this is periodic squint and manifests itself about the fourth or fifth year, when they are learning to spell. Convergent strabismus is mostly associated with hyperopia, and unless promptly corrected the vision of that eye may become permanently impaired. Both of these conditions may be corrected by properly adjusted glasses, an operation, or both; as a rule the glasses are always needed by the patient. It is the hyperope as a rule who suffers most from his eyes, is prone to headache both temporal and occipital, and nervous symptoms; these latter are more aggravated when associated with muscular imbalance. Cases are on record where chorea and epilepsy have been cured by the correction of the refraction error and the heterophoria. The usual train of objective symptoms due to the eye strain are impaired vision to a greater or less degree, winking the eyelids, constantly inflamed conjunctiva, scales and crust in and among the ciliæ, crops of styes, strabismus divergent and convergent, etc. The subjective symptoms are inability to use the eye for any length of time on account of pain and blurring of the image; the running together of the type, or lines or both; sensation as of grit between the lids, etc. The ophthalmologists have of recent years devoted considerable attention to the prevention of disease and have achieved considerable success. I believe with earnest efforts in this direction that further good can be accomplished. It is a well-known fact that the older text books on ophthalmology contain much in regard to pathology and treatment, but very little in regard to refraction; true we have works which treat theoretically of refraction, such as Donders and Landolt, which can not be improved upon, but they do not treat of heterophoria or state that errors of refraction are a causative factor in certain diseases and that their correction cures them. We now know that many of our ocular diseases, such as conjunctivitis, chalazions, styes, blepharitis, etc., which were once believed to be local in their origin, are largely due to eye strain, that when they are corrected by a properly adjusted glass, the cause being removed a cure is effected. It is the belief of the writer that refraction errors can produce not only the above-mentioned diseases, but that it is capable of producing more serious eye troubles as well as constitutional ones. Lately I read a paper before this society on "The Relation of General Disease to the Formation of Cataract." I would state that I believe also, that there is a relation of eye strain to the formation of cataract and to the causation of glaucoma; the etiology of the latter disease is yet open to doubt; it is generally conceded that its secondary cause is the closure of the filtration angles; the canal of Schlemm and the spaces of Fontana. These spaces become closed from increased ocular pressure, the reason for the increased ocular pressure can not be so easily explained. In this connection a paper written by Dr. Swindell may be quoted.

In twenty-five cases of glaucoma seen by him nineteen had errors of refraction, the other six he could not test satisfactorily; all of those tested had hyperopic astigmatism. The ill effects of hyperopia and hyperopic astigmatism have already been mentioned, therefore, who can deny that these nineteen cases of glaucoma were not due to eye strain? We have now in a general way mentioned the ill effects of errors of refraction. We know also that they as a rule are corrected by properly adjusted glasses; the question naturally arises as to who should make these examinations and prescribe. I unhesitatingly say that no one but a graduate of medicine and one who has had several years' practical experience in that line should do so. Theory without practical experience is of little avail; all of the leading medical colleges of this country recognize this fact and give their students the practical as well as theoretic instruction. The great physicians and surgeons of our age became such through practical experience gained in the hospitals and clinics. It is there they put their theory into practice, there the surgeon gained his operative skill and physician's eye, ear and touch become educated. The pharmacist who has only theory at his command would not be a desirable one to compound a complex prescription; the chemist, the bacteriologist and others could never become expert and accurate in their work without practical experience; so it is impossible for one to examine the eyes (one of the most delicate organs of the human economy), measure the refraction error and correct it, without having had practical experience in doing so. It is the prevailing opinion of the public that fitting glasses is an

easy matter, that anyone who chooses may do so for their financial benefit, notwithstanding the fact that they have never received a medical education nor any special preparation or experience in this line. This is a grave error, the correction of which will be of great benefit to the welfare of the public and ophthalmology in general. We have in this city a class of men who have none of the above requirements, but who advertise to fit all eyes with glasses. They are to be found in many of the jewelry stores; there is not a day the oculists of this city do not correct some of the errors of these men. The glasses they furnish are injurious to the eyes of those wearing them; they think that all eyes having defective vision need glasses, therefore, prescribe them when the visual defect is due to choroidal or retinal inflammation, beginning cataract, optic neuritis, etc. One of the first and most important methods of examining an eye to determine whether an error of refraction or disease exists is by means of the ophthalmoscope; in many instances photographs, as it were, of many diseases which have their origin in remote parts of the body can be seen; patients who have applied to the oculist for glasses have learned for the first time that they are the victims of some incurable disease; we see such photographs in albuminuria diabetes, cerebral tumors, locomotor ataxia, etc. In such cases the oculist instead of trying to remedy the lack of visual acuity by glasses refers the patient to the family physician for general treatment. Have we not here an object lesson? Who can say how many diseases have gained headway and progressed beyond being remedied, among those in whom the first symptoms became manifest by the lack of visual acuity and who applied to the optician for aid and were furnished with glasses, the true condition not having been discovered until in despair they consulted an oculist.

The assurance of these men is appalling and they are a menace to the welfare of the public, against the perpetuation of such iniquitous optical practices as described; in this city we are powerless at present to do more than protest. Ohio has taken the initiative step to correct this evil. "The regulation about to become operative under the 'medical regulation law,' recently passed by the Legislature, will materially reduce the evils of refracting opticians by making a large portion of the work done by them a penal offense. Other States must follow suit; the future is encouraging; all that is needed is determination and action!" We have now, through the united and untiring efforts of our physicians, a medical bill, which a few amendments will make an ideal one, and we hope that in the near future, the same champions of our cause will secure such changes as will make it perfect in all its requirements, and we sincerely hope that a clause will be inserted making it a penal offense for any but a graduate of medicine and one who can pass a satisfactory examination in practical refraction to examine, prescribe or fit glasses to the eyes of the public; for it is the belief of the writer that, with better correction of refraction errors by skilful ophthalmologists who have kept abreast of the times and who are thoroughly equipped with the best of modern paraphernalia, great and lasting benefit will result to the eyes of the present and coming generations, preventing and curing many serious ocular diseases, as better methods of sanitation and hygiene have been effective in preventing the ravages of such diseases as cholera, typhoid fever, yellow fever, etc.

1016 I Street.

MEDICAL PARIS.

NOTES FROM MY SKETCH-BOOK

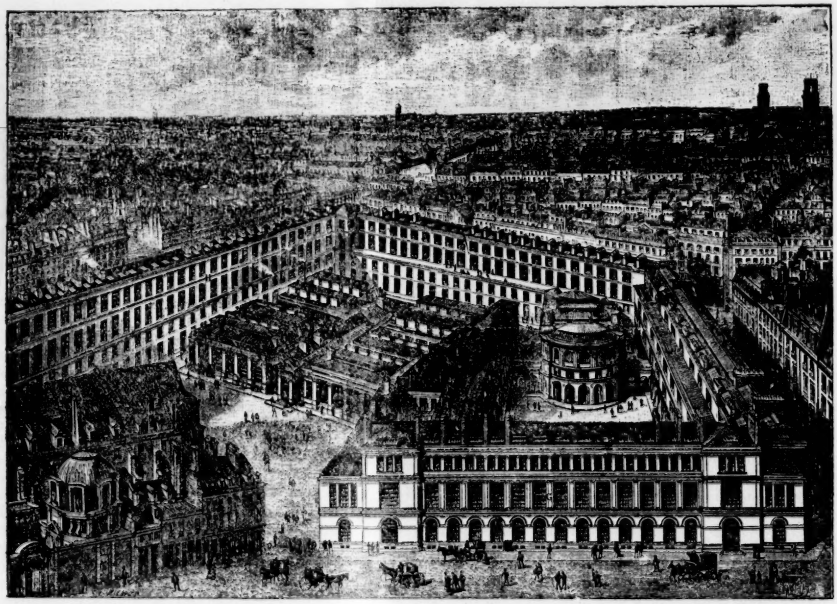
BY L. HARRISON METTLER, A.M., M.D.

CHICAGO, ILL.

To have seen Paris is to have seen the world; few are the tourists, however, that ever see Paris. A room in a hotel near the Opera and a few buildings viewed from an open barouche is not Paris. Once I met a traveler who had sauntered about the "city of delights" some three long months, and yet had not observed that the Notre Dame cathedral was upon an island. Except Rome, probably no city in the world has been so much written about or has played so picturesque a rôle in history as Paris. It is so full of novel attractions, historical relics and romantic reminiscences, so adorned with all the beauties of art and architecture, so enriched with the most modern scientific and sanitary improvements, so systematized in government and municipal management, that an American physician might well be excused for forgetting that medical Paris is equally as full of historic anecdote and modern achievement. Ah! no, be not deceived; medical Paris can not be seen in a three-days' sojourn, with an occasional call at the Pasteur Institute or the Hotel Dieu Hospital. When Vienna was little else than a Roman fortress, when Berlin was still a little group of huts and drying fish-nets, when Munich was only a monastery and when even London was little more than a Saxon hamlet, Paris was a royal city, the seat of government and the site of a university. In the sixth century Clovis chose it as his residence, and in the tenth century Hugh Capet encouraged its learning so as to lay at that early day the foundation of the future reputation of its great schools.

The actual beginning of the University of Paris was in 1253 under Robert Sorbonne. One of its earliest and most flourishing departments was that of medicine. To-day there are six medical schools in France, namely, Paris, Montpellier, Nancy, Lille, Lyons and Bordeaux. The great reputation of Paris as a medical center began about the middle of the fifteenth century. In 1618 the first amphitheater for anatomic demonstrations was erected. This was rebuilt in 1744 and was soon discovered to be inadequate. Lamartinière, Surgeon to Louis XV, obtained the ground of the College of Bourgogne in the Rue des Cordeliers and began the construction of the present vast assemblage of buildings known as the *École de Médecine*. They were not completed until 1785 and on account of their architectural beauty they made the reputation of their designer, Gondouin. They were opened for use Aug. 31, 1776. There is a main building, flanked by two wings, joined by an open gallery. In a word, there are four buildings surrounding a court-yard, sixty-six feet in depth and ninety-six in breadth. The main frontage upon the street extends a distance of 198 feet. The open gallery, consisting of a double row of Ionic columns, is surmounted by a second story. The anatomic museum and library are found on the first floor. The amphitheater at the bottom of the court is capable of holding 1,200 persons. In the wings are spacious halls for various demonstrations. Over the main portal is a bas-relief of Louis XV, between the allegoric figures of *Wisdom*, little of which he seems to have possessed, and *Benevolence*, too much of which he exhibited for his own good. In front of the entrance stands the bronze

statue of Bichat, the anatomist. In fact, all about the buildings are memorials of various eminent medical men, such as Broca, Petit, Marechal, Paré, Pitard and Peyronnie. During the latter years many additions have been made to the old *École de Médecine*, especially the magnificent façade upon the boulevard St. Germain. To the casual tourist of a medical turn of mind, however, the most interesting of all this assemblage of bâtiments is the ancient structure, which looks from the outside like a church. It is the ancient refectory of a Franciscan monastery, but is now used as a pathologic museum and known as the Musée Dupuytren. How many names, now famous in the history of medicine, did I see on the specimens in this quaint old museum! As I saw upon this bottle or that skull, the names of Paré, Velpeau, Larrey, Nélaton, Broussais, Dupuytren and others, it seemed to me as though I were reading a history, not only of medicine but of Paris as well; and memories of the early kings of France and their wars, of Napoleon and of the French revolution poured in upon me.



ECOLE DE MEDECINE, PARIS.

The applicants for admission to any of the medical schools of France must possess the "diplôme de bachelier ès lettres," or the "diplôme de bachelier ès sciences restreint," equivalent to the B. A. of London University, with considerable knowledge of chemistry, zoölogy, botany, geology and astronomy.

The *École de Médecine* is in the heart of the Latin Quarter of Paris, whither one must go, if, as Thackeray says, "he is to study the humanities or the pleasant art of amputation." Now to learn where the Latin Quarter is and why it is so called, the tourist can not do better than read Victor Hugo's "Notre Dame," wherein a certain chapter is set apart for a brilliant description of the origin and development of Paris. Originally Paris was confined to an island in the middle of the Seine River. To-day this part of the capital is known as La Cité, and contains among many notable buildings the Notre Dame Cathedral, in the shadow of which nestles the historic old Hotel Dieu Hospital, of which I will have something to say later on. As the city grew, its extension beyond the limits of the island away to the north, or right bank of the river became known as La Ville, and contains the palaces, municipal buildings, art galleries and residences of the aristocracy. On the south, or left bank of the river stood the University in all its pride, independence and scholarship, and its immediate vicinity, so dear to the heart of the student, ere long became known as Le Quartier Latin. I am unable to say why this particular part of Paris should be called the Latin Quarter, unless because here are most of the great schools and here the scholars congregate in their crowded lodgings, conferring upon the neighborhood the general air of Latinity that usually surrounds student life. As it is also one of the oldest sections of the city, that, too, may have a little to do with its pagan appellation. To know the Latin Quarter is to know Paris, and to dwell therein awhile is to observe student life such as it will be seen in no other city in the world. Space forbids my description of it here, but the reader who wishes to revive memories of his days in the good old

Latin Quarter, will do well to read a few chapters of Ohnet's story of "Dr. Rameau."

One day shortly after my arrival in Paris I found myself in the great courtyard of the Ecole de Médecine. Groups of students standing about or seated upon the doorsteps of the main entrance were vehemently discussing the "examens." It was a rare sight, these fiery, excitable, gesticulating French lads—or rather men I might say—chattering and bobbing to one another in a most tremendous fashion, about the soul-harrowing examinations which they were to undergo or had just escaped. They could not talk fast enough (a Frenchman never can) and each individual that emerged from the doorway was pounced upon as wolves pounce upon a helpless lamb and was all but annihilated with questions and gesticulations. There were others who stood silently apart and in rather a comical manner kept their lips moving while their eyes were riveted upon mysterious looking little bits of paper which they kept stored away somewhere in the depths of their capacious pockets. All at once there was a profound stir among the various groups. The mysterious papers disappeared, the mutterings changed to mute reverence, ears were less strained, the noisy chatter and wild gesticulations ceased, some of the fellows moved off in a kind of nonchalant manner, others seated on the doorsteps leaped up and started off or stood near where they had been sitting in an attitude of almost oriental obeisance, while all acted as if royalty itself were approaching. Their majesties consisted, however, of only a few members of the faculty including the late Professor Charcot. When this section of the faculty had vanished beneath the shadow of the doorway, the chatter and gesticulations, as only Frenchmen are capable of, began again with tenfold energy. I saw many of the students following the professors and did likewise. In one of the upper corridors the professors scattered and disappeared in various small apartments. In and out of these rooms strolled the students as though they were merely visiting some anteroom of the Louvre or Luxembourg. I did the same and this is what I saw: At one end of the room, behind a railing was placed a green-covered table, behind which sat the examiner, the referee and perhaps an additional member or two of the faculty or subfaculty. Outside of the railing, huddled as closely to one another as possible, were fifteen or twenty students, one of whom at the time was undergoing an oral examination, causing him untold miseries. He would blush like the setting sun, his knees and hands would tremble like the sunbeams on a ruffled lake, and his tongue would scarcely realize whether it were talking sense or nonsense. He felt ill at ease, to be sure, but he was not in the least ashamed, for he knew he had the hearty sympathy of the fellows about him. Their turn was yet to come. Thus are the examinations conducted at the great medical school of Paris; open to all and before several witnesses and referees. It is a severe test, but one has the consciousness of knowing that it is fair and equal to all alike. The questions were plain, direct, and practical. They were not in the least framed merely to trip the student on some rare and abstruse item. Scholars whose homes were in most distant parts of the world were undergoing the ordeal.

In the vicinity of the medical school are many book stores, some of them devoted exclusively to medical literature. They are patronized freely by the pupils and in some respects resemble small public libraries, in that every one is welcome to enter and thumb over the books. Paris publishes quite a number of excellent medical journals, notably *La Semaine Médicale*, *La France Médicale*, a small but sprightly sheet which appears three times a week, *Le Journal de Médecine*, which is Dr. Luteaud's organ, and a vigorous one it is, too, and many others of lesser importance. There are quarterly publications with the clinics of the Salpêtrière and special reports of the French Academy of Medicine. I can not say, however, that the French journals compare favorably with the great English weeklies; in style and general typographic appearance, however, they maintain the proverbial French reputation for this particular kind of work.

The history of the management of the public charities, and especially of the hospitals of Paris, forms an interesting chapter in itself. In the earliest times the convents and monasteries, both of the city and its suburbs, offered a retreat not only to pilgrims, but also to the sick and insane. Gradually these establishments erected special buildings for the sick within their domains, and while the monks administered the treatment, the sisters attended to the nursing. In 816 Charlemagne decreed that at each See one of the canons should always govern the hospital or hospice; and that these institutions should always be in close proximity to the cathedral. This explains the near association of hospitals and great churches in many parts of Europe to-day, as, for instance, Notre Dame and the Hotel Dieu of Paris. The control of the hospitals by the clergy continued until the beginning of the sixteenth century. After that date governors were selected partly from the laity, though the religious orders continued to bear an important share in their management. As the charitable institutions developed, as they were more and more assisted by the state and private benefactions, the transfer of their government from the church to the state became more and more complete.

The Assistance Publique forms one of the administrative departments to-day of the Prefecture of the Seine. Its revenues exceed forty million francs, obtained by a tax on the receipts of theaters and other places of amusement, on burials and on the Monts de Piété or government pawning offices, of which there are twenty-five. Among other charities it has under its supervision some twenty-two civil, general and special hospitals, nineteen public hospices, twenty-seven asylums and almshouses and three military hospitals.

The largest as well as the most famous of the Paris hospitals are the Hotel Dieu and the Salpêtrière. As a student for a number of weeks at the Salpêtrière, I enjoyed the opportunity of watching some of the work at both institutions and in another paper will have something to relate of their history and clinics. I would that space allowed me to do more than merely refer to some of the others, for a visit to the Charité with its 504 beds, its history running back to Marie de Medicis in 1602, its founder, and its interesting chapel constructed at the end of the last century and now used for the meetings of the Academy of Medicine, or a morning call at the modern and elegant Lariboisière, with its 636 beds and the magnificent tomb of Madame Lariboisière, its benefactress, in the chapel, is something to carry long in one's memory. The Hôpital du Midi was in 1613 an old convent, but is now a hospital with 336 beds. Was it not here

that Ricord, the famous Frenchified American doctor came and first established his own school after his rupture with the great Dupuytren! And was it not here that he made those marvelous pathologic studies in regard to certain unmentionable diseases, which ran counter to and overthrew all previously conceived notions! Certainly, and the American physician who is interested in les hommes atteints de maladies vénériennes, will be sure to visit Le Midi. As that same American physician is singularly interested in les maladies de la peau, he will go direct from the Midi to the Saint Louis, which was founded in 1607 by Henry IV. and contains 823 beds. I would like to be able to sketch this quaint old hospital for skin diseases as I saw it, its low creaking doors, its musty, close little rooms, its pleasant, quiet little courtyard with gravel walks and ancient trees, its energetic, loquacious old porter, and its remarkably rich clinic, presided over by the distinguished Fournier, but I must hasten on.

A clinical lecture at the new and artistic Clinique d'Accouchement by the great Tarnier is a revelation to an American. The manner and method of it is something to be envied by all teachers of obstetrics. But I must forbear and close by simply mentioning the Hôpital Beaujon, with its 422 beds, the Cochin Hospital, with its 201 beds, the Hôpital Laennec, dating back to 1634 and containing 311 beds, the Necker Hospital, with 418 beds, the Hôpital Saint Antoine, with 594 beds, the Hôpital Tenon, with 635 beds, and such other special hospitals as the Lourcine, with its 276 beds, for women afflicted with venereal disease, the Maternité, with its 316 beds, the Hôpital des Enfants Malades, with its 518 beds for the little folks, and the Hôpital Broussais, with its 260 beds. These are not all by any means, and most of the hospices and asylums which are of particular interest I have not even attempted to mention.

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SELECTIONS.

Abnormal Mobility of the Liver.—Mr. John Morris, in the *Practitioner*, discusses some cases of this morbid condition that have lately been recorded, inclusive of one by Dr. J. E. Graham of Montreal. "Dr. Graham published his case with a facsimile of a woodcut showing a displaced liver, published by Heister in the year 1754. No fewer than seventy cases were tabulated, excluding all in which the displacement was due to causes above the diaphragm, and also those in which it was due to tumors or abscesses between the liver and the diaphragm. Of course the diagnosis was not certain in all the cases. A large majority occurred in women who had pendulous bellies after frequent child-bearing. In the only well-marked case that I have seen, the luxation followed the rapid disappearance of a large fibroid tumor at the menopause. The abdominal wall was thin, and the liver edge could be easily defined by palpation at the level of the anterior and superior iliac spines. The organ could be pushed into its proper position, and an abdominal belt gave considerable relief. Abdominal section has been performed (sometimes on a mistaken diagnosis), and the liver has been fixed to the abdominal wall; but I have not observed a record of any such case when sufficient time had elapsed to enable us to know whether real benefit resulted.

"Cases of undue mobility of a portion of the liver have been recorded. Bastianelli (*Il Policlinico*, 1895) has detailed a case in which he diagnosed a cancerous right kidney. An abdominal section having been performed, the tumor was found to be a portion of liver attached to the main mass of the gland by a band of hepatic tissue. The pedunculate mass contained growths which were afterward found to be gummata. It was removed with the gall bladder, which lay on its under surface, and the patient was seen thirteen months later in good health, and seven months pregnant. I have seen a case in which a similar diagnosis of kidney tumor was made, and on operating, a portion of the right lobe of the liver was found to be bent on the main mass, the line of flexion being very thin, and permitting free movement. At a recent meeting of the Medico-Chirurgical Society, Mr. Mayo Robson related a case in which he cut down on a gall-bladder and found that it was the seat of malignant disease, there being also a nodule in the liver close to the growth in the gall bladder. The liver was somewhat displaced downward, and it was found possible to draw the affected portion of the gland and the gall-bladder out of the abdomen, and to make an artificial constriction of the liver substance behind the disease by means of an India-rubber tube. The constricted portion was transfixed by two knitting needles and secured outside the abdominal wound after the plan commonly adopted in performing hysterectomy, the distal part being cut away. A small growth, in which no malignant elements were found, was removed from the abdominal wall of this patient some three months later and ten days before the reporting of the case. Recovery followed, but sufficient time had not elapsed to allow of the permanent effect of the operation being recorded. Bastianelli (*loc. cit.*) attributed floating liver lobes to malformation, acquired deformity, as from pressure, and the traction of new growths."

Acute Peritonitis Produced by the Pneumococcus.—The three last numbers of the *Archives Clin. de Bordeaux* (3, 4 and 5) are almost entirely devoted to a critical study of this comparatively rare disease: Acute peritonitis caused by the presence of virulent pneumococci in the peritoneal cavity. As the disease usually terminates fatally, without prompt and sufficient surgical intervention, it is of the utmost importance to be able to diagnose it at once. The author, Professor Cassaet, first proves its existence as a pathologic entity, and its essential element, the virulent pneumococcus. It develops at all ages, without distinction as to sex or season, but preferably where there has been some former lesion in the abdomen or when the resisting powers of the organism are diminished from any cause. The infecting agent penetrates into the serous membrane without assistance from any other pathogenic or saprophytic agent, either through the skin or intestine after traumatism or from inflammations, tumors, etc., in the genital region or elsewhere, or conveyed by the blood or lymphatics. Colonizing there it produces its specific lesions, the same as in the lungs, with the same effusion and tendency to wall in the purulent collections. Cassaet suggests that one reason why the lungs are so much more frequently the seat of the disease than the abdomen may be that the microörganisms are so easily inhaled and remained unchanged in the lungs, while it is a much more difficult matter to reach the peritoneal cavity and run the gauntlet of the secretions of the alimentary canal. Primary pneumococcus peritonitis is distinguished by an absolute absence of prodromes, by its abrupt début, commencing suddenly, like a thunderclap, in the midst of apparent health or following some other disease. The principal manifestations are sudden, intense pain, vomiting of bile, profuse diarrhea, occasionally a few chills. In the secondary stage the fever rises, the pulse grows more rapid, respiration labored, the urine decreases and contains albumin, and the entire organism is gravely affected. There is no tympanitic resonance, although the abdomen is enormously distended; it offers a certain soft resistance to the finger, changing to an undulation, slight at first, becoming an actual fluctuation, amounting at last to the

sensation of a vast accumulation of fluid inside. The meteorism does not appear until a day or so after the pain period. As the meteorism gradually increases the fever declines and the pain subides; an important indication differentiation. The terminal period is short if the infection is severe; death follows without much change from the preceding conditions. It lasts longer if the body has had strength enough to survive till the purulent period, when the symptoms are those of true septicemia, subsiding to those of a circumscribed abscess, when the encysting process has been accomplished. Comparing it with the other forms of peritonitis, it is distinguished from puerperal peritonitis by its absolutely sudden beginning and the absence of repeated chills and fetid discharges. It resembles appendicular peritonitis, but as the treatment is the same for both, differentiation is not imperative. It can be distinguished from the peritonitis following perforation, as the fever in the latter is higher from the start, with subsequent hypothermia; the dysuria is more complete, the meteorism more sudden, the dulness more immediate and the evolution more rapid. The history of the case may also proclaim the probability of perforation. Careful study of all the cases on record and others proves that laparotomy is the only means of cure; and it must be prompt and effectual so as to open and clear every infected focus. It must be median laparotomy, extensive enough to insure a minute exploration of the flanks and hypochondriac region. Several cases reported, which were doing well after laparotomy, succumbed later and the necropsy disclosed unsuspected purulent collections behind the liver or elsewhere which had escaped notice. The percentage of recoveries in the cases on record which were treated in an effective manner amounts to 80 per cent., but the mortality is 75 per cent. in the general average of cases. We add the author's summary of the various pneumococcus infections which may follow or appear independently of pneumonia: Bronchitis, broncho-pneumonia, pleurisy, pericarditis, endocarditis, sporadic and epidemic meningitis, arthritis, amygdalitis, pseudo-membranous angina, enteritis, nephritis, metritus, inflammations of the nasal cavities and sinus, otitis of the middle ear, osteo-periostitis, abscesses and inflammations of the connective tissue.

The "Curatel" Treatment of Inebriates in Austria.—The treatment of habitual alcoholics in Austria is attended with difficulty, the laws having been so framed as to leave that class virtually without direct constraint. Drunkards, in that country, come under the same class as idiots or spendthrifts. A special report on this subject in the *London Lancet* for June 6 further states that the process of "curatel," whereby the court appoints a curator or administrator for persons who do not look after their own affairs and who are unable to defend their rights, is made applicable not only to children, lunatics and idiots, but also to those who having been declared "spendthrifts" by a magistrate, have been deprived of the administration of their property. A man may be judicially termed a spendthrift if it appears on examination of the charge that he is running through his property in a senseless way and that he is exposing his family to future destitution by contracting loans under reckless or ruinous conditions. In some kingdoms, as in Galicia and Lodomeria, there is a special law for the prevention of drunkenness, and one section provides that on being convicted of drunkenness three times in one year the district authorities may forbid the offender to visit public-houses or liquor shops in the neighborhood of his domicile for the period of one year, under pain of fine or imprisonment. "The inadvisability of mixing mere drunkards with the insane in asylums is fully recognized by the Austrian authorities. Last year a bill for the erection of public asylums or establishments for the cure and reform of drunkards was brought into the Reichsrath by the Minister of Justice. These institutions are intended for the reception of 1, those who have been judicially punished for drunkenness three times in the course of one year; 2, those mentally affected owing to habitual or periodical abuse of alcohol who have been admitted into hospitals or lunatic asylums, and who, although they have recovered their sanity, have not sufficient self-command to resist the temptation to drink; and 3, those who, owing to habitual or periodical abuse of alcohol, endanger the moral, physical or financial security of themselves or their relations. Provision is also made for the compulsory retention of patients for a period which may not exceed two years, and placing the police and judicial authorities at the disposal of the administration of the asylum in order to recover fugitives from the same. Consideration is given to the proper safeguarding of the individual from the illegal and undue application of the various processes upon which detention in an asylum may be carried out."

Dress Reform for Women Rendered Probable by the Bicycle Costume.—A female medical practitioner who has ridden the wheel since 1888, has expressed herself as sanguine that a healthful and comfortable dress will be the outcome of the extension of the bicycle habit among females. She states that she has modeled one for her own use, which satisfies her as preferable, on a variety of occasions, to the dirt-collecting long skirt. "I frequently shop in my bicycle costume," she said, "and, while much staring and often audible comment greet me, yet I think if the costume were universally adopted it would soon cease to be noticeable. As to its merits there can be no doubt, and no woman who has experienced the freedom and comfort of the short, light skirt will willingly return to the long, heavily lined skirt which fashion now prescribes. Women are slaves of fashion, and it will be a difficult matter to bring the most approved style or short skirt in vogue, for it is detrimental to the interests of the mercantile trade. Many furbelows would follow the long skirt if it were discarded and in its stead a modification of the bicycle costume adopted, for the latter only lends itself to the severest adornment. I object to bloomers," she continued, "because they create unfavorable comment and are often immodest. I think it is a great mistake for women to walk around and sweep up the dirt with their skirts, and I am in hearty sympathy with any movement to get rid of them for a more sensible style of dress. I do not wear corsets, and I have used my pen and voice equally to persuade other women to discard them. In some cases I have been successful, but in nine cases out of ten a woman clings to her corset as the drowning man clings to a straw. The long skirt is equally reprehensible, and there is no garment so ungraceful, so suggestive of untidiness as a long, rain or dirt bedraggled skirt. Especially is this the case in stormy weather, when woman requires all her strength and the free use of both hands and limbs to battle with the elements, and is generally so encumbered with umbrella, bag and parcels, that her skirts are allowed to trail unnoticed through wet streets. Any dress which it will not be necessary to hold up and will be comfortable and useful, will be welcomed by all sensible women. The bicycle costume, when the skirts are a graceful length, and not too light about the hips, seems an ideal costume for a rainy day, and adaptable to walking and outing generally. I shall be most happy to advocate its use. A learned gentleman once told me that women would never attain the same power intellectually and physically as men until they freed themselves from hampering clothes. Men will not submit to uncomfortable fashions in clothing, and consequently do not suffer from the nervous disorders that are produced by the unhygienic and irritating clothes that are worn by women."

A Mild Epidemic of Scarlet Fever at Louisville.—In the *American Practitioner and News*, June 27, Dr. John Larrabee depicts the differences that present themselves in two epidem-

ics of fever, just twenty years apart, in the same town. The epidemic of 1876 was grave and distressful, while that of 1896 is designated as "benign"; and some of the physicians go so far as to disregard the isolation of the well. In the discussion of the subject before the Medico-Chirurgical Society of that city he went so far as to say that the type of the epidemic fever was so mild that he would not insist on quarantine because it was a good chance for the unprotected children to obtain immunization at a low risk. Other members expressed the like opinion. To those of us who have never yet encountered a benign epidemic of scarlet fever, an avowed neglect of isolation is "a hard saying," but these gentlemen of Louisville are open-eyed and humane practitioners, so that we know that the apparently "thin ice" they are testing will be abandoned so soon as they discover that their course is hazardous.

Dr. Larrabee opens his paper with a historic reference that illustrates in an admirable way the capricious behavior of scarlatina. He says: "It is well to remember that scarlet fever was differentiated from measles about two centuries ago. Its history for upward of two hundred years, the period in which it has been known, is peculiarly interesting. None of the exanthemata is subject to such variations. Thus the description given by Sydenham of the first great London epidemic, contrary to what should be expected, was that of a light and trivial disease, only dangerous by the officiousness of the doctors: 'Vix novem morbi merebantur.' And it was he who first differentiated scarlet fever from measles, an older and more prevalent disease. This is certainly a strange contrast with the observations of more recent periods both in Europe and America. Its prevalence in the eighteenth and nineteenth centuries warrants the conclusion that it has steadily increased in potency until it has come to be considered one of the most treacherous as well as fatal diseases of childhood. Löschner, fifty years ago, wrote that he had never seen a benign epidemic. Thirteen per cent. of all cases became dropsical, and 38 per cent of all dropsical cases died. Epidemics of scarlet fever vary not only in severity but also in complications. Some have been largely anginose, others noted for rheumatic complications. The mortality has ranged from 13 to 40 per cent. and then again as low as 3 to 4 per cent. Köstlen wrote that scarlet fever disappeared entirely from his practice for fifteen years, and that there was not a case in Stuttgart from 1830 to 1846, at which time an epidemic occurred in which there were no fatal cases. Those who have had experience with the present prevalence of scarlet fever will, I think, agree with me that in point of severity cases are in strange contrast with those which we have been accustomed to see in former epidemics. The word epidemic is not strictly proper to apply to the present prevalence as to the number of cases, and still the disease is so widespread as to be out of consideration as an endemic. If epidemic, it must certainly be considered benign.

Regarding first epidemics we are taught to believe in their severity, and such was the case with measles in the Phillipine Islands several years ago. In scarlet fever we have a disease in which the first epidemic known was as mild as at present. A point that has not been discussed sufficiently was the proportion of complications in different epidemics. It was my privilege to see the epidemic of 1876. I saw in my own practice thirteen deaths. In two cases the temperature ran up to 110 degrees F. before the eruption appeared, the other case being typical scarlet fever. In regard to middle ear troubles, the point I insist upon is that cleansing the throat should be made a routine practice whether the throat is sore or not, and in all cases of the disease however mild. In regard to the point of contagiousness the remarks have been surprising. Negatives never prove anything. The fact that a child does not contract the disease when exposed does not prove anything; but a child getting the disease when exposed proves the whole question. I have always looked upon scarlet fever as the highest and most persistent type of contagion with which we have to deal. In regard to the rheumatic complications of the disease and the discussion upon that point, I desire to be understood that this is a true rheumatism and that the conditions of metabolism are as perfect to produce it as could be. The rheumatism complicating scarlet fever yields at once to salicylates, which of course we all employ.

A Bishop Upholds Vivisection.—Bishop Lawrence, at the last annual meeting of the Massachusetts Medical Society, June, 1896, gave a pointed rebuke to the antivivisectionists of his State, which was wise and timely. The remarks given below contain the Bishop's reference to that subject and also a recognition of the debt the Commonwealth owes to the altruistic ranks of medicine:

"Speaking not only for myself, but also for the great religious sentiment of this Commonwealth, I can say that wherever one finds any representative member of this Society, one is impressed, he is humbled, by the devotion of the doctors to their work, by their instinctive love of their profession, by their interest in the scientific lines of their work, and by the service they devote unwearedly to their fellow men. The public spirit of the physicians throughout this State, in relation to their hospitals, to sanitary movements, and to all other civic movements which bear upon their profession, is recognized; but I can not quite believe that they are sufficiently recognized by the people. They are doing untold work in all those lines. The readiness with which the physicians of Massachusetts and of this Society respond to calls, without asking questions as to whether they are to receive money in return or not—and they are sometimes imposed upon—is remarkable. The work is done cheerfully and willingly, and is the best form of charity. I can not, therefore, understand how it can be that a great body of people in this Commonwealth can so far distrust the great body of these physicians—can so far distrust their tenderness, their humanity, their sensitiveness to pain—as to bring any unwise, unreasonable restrictions to bear upon scientific study as expressed in vivisection. The people of this Commonwealth have tender hearts, and though they may be New Englanders externally, they are desirous of seeing that no hurt shall come to the animals. At the same time, it seems to me that into no hands can the welfare of lower forms of creation and the question of vivisection be more confidently placed, than into the hands of the recognized medical fraternity of this Commonwealth. In reviewing in my mind the character of the good physician and his value to the community in which he lives, I can not help thinking of another medical man whom, like your president-elect, I have known as a friend and neighbor for many years, and to whose sympathy and help in time of need so many in Cambridge can testify; I mean Dr. Morrill Wyman. He comes of a family in which are united the love of pure science and the love of humanity. I need not remind you of the scientific work of his brother, Jeffries Wyman. Dr. Morrill Wyman unites the qualities of an enthusiastic, earnest, progressive student of the medical sciences, and a most skillful and devoted practitioner of his art. I remember his telling me of the remark of an old lady, a patient of his, upon whom he had just performed a very delicate operation, which illustrates the regard which is felt for such men by their patients. After the operation was over she said to him, rather to his chagrin, 'After all, physicians are but instruments in the hands of God.' But she soon set him at ease by adding, 'But there is a great deal of choice in the instrument.' If each physician learns, as I hope he does, to regard himself as an instrument in the hands of God, to be more fully developed for His honor and the welfare of humanity, he has within him untold possibilities of usefulness."

PRACTICAL NOTES.

Chronic Pharyngitis.—Iodum .5 gm., potass. iodid 1.0 gm., menthol and glycerin āā q. s. ad 5.0 gms. Apply two or three times daily.—*Pac. Med. Jour.*, August.

Loeffler's Solution.—Alcohol 60 parts, toluol 37 parts, liq. ferri perchlorid 4 parts. Swab the affected parts with this every two or four hours.—*Pac. Med. Jour.*, August.

Camphor Dressing for the Sores left after Furunculosis.—Castellan states that the best dressing for this purpose for sailors and laborers is pulverized camphor sifted on the sore and covered

with an aseptic linen cloth, which is to be kept constantly wet with a boric solution or camphorated alcohol.—*Semaine Méd.*, July 29.

An Anthelmintic.—Tape worm is said to be best treated with ten drop doses in water, three times a day, of a mixture consisting of hydriodate of potash, 3 gms.; iodin, 1 gm., and water 40 c.c.—*Med. Sentinel*, August.

Effects of Elevated Altitudes on the Constituents of the Blood.—Recent experiments confirm the announcement that the number of red blood corpuscles increases in mountain air, and gradually returns to the usual number after return to a lower level. It is also established that the increase is an absolute formation of new corpuscles.—*Wien. Klin. Rund.*, July 19.

A Point in Differentiating Obturator Hernia.—Landerer describes a rare case of acute osteomyelitis of the bony frame of the obturator canal, which had every indication of an obturator hernia, with pus formation, even after exploratory laparotomy and drainage. Two months elapsed before the discharge of a piece of the pubis with pus, followed by recovery.—*Cbl. f. Chir.* July 11.

Treatment of Tetanus with Carbolic Injections; Baccelli's Method.—A man of 68 arrested the flow of blood from a crushed finger with manure, and in six days tetanus followed. It was treated with seven to eight injections a day of 0.01 to 0.02 g. acidum carbolicum after the wound had been disinfected with sublimate and iodoform, and hourly tepid baths after the fourth day of treatment. The patient was dismissed in ten days entirely recovered.—*Gaz. degli Osp. e delle Clin.*, June 27.

Early Diagnosis of Pregnancy: Hegar's Sign.—Hegar's sign seldom fails to diagnose pregnancy as early as the sixth or tenth week. It consists in a change in the body of the uterus, which becomes spheroidal in shape and soft to the touch, while the neck retains its tenacity and shape until much later. The uterus is thus palpated as a round, yielding body mounted on the straight cylinder of the neck. In connection with the cessation of the menses, disturbances in the digestion, ptyalism, changes in the breasts, slaty appearance of the vagina and vulva in a primipara and varicose appearances around the external genital organs and on the lower limbs, the diagnosis of pregnancy is certain in the great majority of cases.—*Lyon Méd.*, No. 5.

Treatment of Vitreous Hemorrhage by Sodium Iodid.—Dr. De Schweinitz states that in vitreous hemorrhage, if not otherwise contraindicated, the internal administration of frequently repeated small doses of sodium iodid materially aids in the absorption of the effused blood. This is particularly true of myopic eyes which are predisposed to hemorrhages of this character by reason of changes in the choroidal and ciliary vessels. In place of the sodium iodid, or sometimes alternating with it, he is accustomed to give the fluid extract of jaborandi in doses just short of its diaphoretic action, or small doses, for example a tenth of a grain, of pilocarpin hydrochlorate.—*Weir's Index*, June 15.

Catheterization of the Pylorus Through the Mouth.—Kuhn of Giessen has invented a sound which can be passed through the mouth into the stomach and through the pylorus into the intestines, even as far as the iliac fossa. It consists of a long metal spiral spring enclosed in a rubber tube. It is so flexible that it makes its way through the most winding passages with a vermiform motion, when carefully twisted. A small rubber bag at the end can be blown up through the tube at any time. This can be palpated and the course of the sound followed. It promises to render great services in the treatment of strictures of the pylorus and intestines, in administering medicine directly into the intestines, sparing the stomach, and in radiography, etc.—*Semaine Méd.*, July 29.

Action of Alkalies on Carbohydrates.—If some alkali is added to the solutions of certain carbohydrates, the transforming power is altered, and in such a way that one sugar is transformed into another. Glucose, fructose and mannose are thus transformed and it is immaterial which one is used to start with. There is also, at least for the substance thus formed, a certain equilibrium reaction, which is prevented from becoming absolute equilibrium by another reaction occurring at the same time, the formation of acid. In all probability the fructose is the immediate link in the transformation of glucose into mannose, and of the mannose into glucose. The process itself may be the work of some of the hydroxyl group. A similar process may occur in plants, which would explain the production of cane-sugar out of glucose.—*Cbl. f. Phys.*, July 11, from *Ber. d. d. chem. Ges.* page 3078.

Treatment of Pertussis.—Dr. Charles Gilmore Kerley reports relative to treatment as follows: "Antipyrin, bromids and belladonna were each used in several groups of twenty. The ages of the cases treated varied from 6 weeks to 5 years. They were of every condition of bodily strength and weakness. The duration of an attack was not shortened in a single instance. Antipyrin gave the best results. Under its use the number and severity of the paroxysms subsided. A combination of the bromids of soda, potash and ammonia came next. The much vaunted belladonna appeared to exert little or no influence. It was given to the point of physiologic effect. Alum gave practically negative results. Dilute nitric acid and fluid extract of horse chestnut leaves were utter failures. The results in a few cases in which antipyrin was used were notably good. The number of paroxysms diminished one-half in some, one-third in others.—*N. Y. Polyclinic*, August.

Hypertrophy of Prostate Treated by Castration.—The *Medical News*, July 25, has an analysis of twelve cases of this nature, as reported by Dr. C. W. Mansell Moullin, the well-known author and surgeon to the London Hospital, before the Harveian Society, which were attended with gratifying results. "In two cases, both under his own care, death had taken place five and nine days respectively after operation; one death was due to cerebral hemorrhage, the other from fatty degeneration of the heart. In two cases, both of which ultimately recovered, traumatic delirium in severe form came on very soon after the operation. In all twelve cases, even inclusive of that which was fatal on the fifth day, there was reported a distinct improvement as to obstruction, and in those cases which remained under observation a sufficient long time to enable the surgeon to measure the size of the prostates, there was found an appreciable diminution in size, as measured both by urethral and rectal examinations. One case, less successful than others, was that of a patient, 80 years or age, the diminution in size when measured by the finger in the rectum was not very great, and voluntary control was not regained. But as a soft catheter passed easily, whereas before only a metal one or a bougie could be used, and that with difficulty, and as the stranguary, which had resisted all previous treatment, entirely disappeared, Dr. Mansell Moullin thought the case could not be considered a failure. It was never suggested that removing an obstruction at the neck of the bladder would be able to regenerate the muscular coat, if this had been destroyed by catheterism and previous cystitis. In another case the inflammation of the bladder persisted, but this again was not the fault of the operation, for the walls contained numerous sacculi, which could not be kept empty. Respecting the traumatic delirium in two cases, already referred to, Dr. Moullin avers that it is not due to the orchotomy, but to that tendency to delirium that obtains in elderly people after severe injuries, and may even follow the administration of an anesthetic."

"Molding" Treatment of Club Foot.—This method takes its name from the gentle, gradual way in which the soft parts of the foot are molded into the correct shape, stretching, pulling and

cutting where necessary, until a touch of the finger will turn the foot into the normal position. Not until this is attained is the cast applied, thus preventing gangrene from pressure. It is the exact opposite of Wolff's forcing method, which applies the cast and just as it hardens, the foot is forced into the correct position. Another advantage of Lorenz's method is that the various defects are corrected in turn, although at one sitting. Adduction and inversion are first altered into abduction and eversion; the tendon of Achilles is then cut, with care that the tuberosity of the calcaneum is brought down into place. Then supination is changed into pronation, and not until the foot is thus altered without force into a calcaneo-valgus, is the cast applied; split down the center to allow for slight swelling. It is left for six weeks, and the later bandage for two to three months. The treatment concludes with massage and active exercise of the muscles, especially the pronators. Lorenz has invented an instrument to assist in molding the feet of adults, as this requires more strength than a child's club foot. The method is described and illustrated in full in the *Wien. Klinik.* Nos. 11 and 122.—*Cbl. f. Chir.*, July 5.

Pellotin, a New Hypnotic.—According to the *London Lancet*, June 20, Dr. Jolly of Berlin, has made considerable progress in the study of a new hypnotic, called pellotin, which is not prepared by chemic synthesis, like the other sleep-producing medicaments of the present day, but is an alkaloid discovered in a species of Mexican cactus called anhalonium. The natives of Mexico are reported to swallow slices of this plant, to which they give the name of "pellote," and Dr. Hefter of Leipsig, has now succeeded in isolating its soporific alkaloid. Pellotin itself is not soluble in water, but its hydrochlorate is extremely soluble. Its physiologic action was first tried on frogs and then on mammals, which very soon became unable to stand or perform spontaneous movements, and shortly afterward an increase of the reflexes was observed, followed by tetanic convulsions. This action of the drug on animals was not identical with that which Dr. Heftner observed in himself, for after taking five centigrams (three-quarters of a grain), he became very drowsy and ultimately fell asleep. The drug was then given by Professor Jolly to a number of patients in the neurologic wards of the Charité Hospital in Berlin. The first case was that of a man suffering from alcoholic neuritis, who, after an injection of four centigrams, became very drowsy, and one hour afterward he fell into a sleep which lasted for four hours. Dr. Hefter had observed in himself a diminished pulse rate, and the same symptoms were perceptible in this patient, during the first hour of whose sleep the pulse fell to 56 per minute, rising again to 76 before the man awoke. Another patient with multiple sclerosis took five centigrams during the afternoon, and after half an hour he slept soundly for several hours. Similar results were obtained in a series of other cases. Some patients complained of giddiness and declined to take the medicine, but the greater number did not suffer in this respect. The cost, at present, of the article is about fifty cents per grain, but the chemists, Boehringer and Soehne predict that they will presently be able to bring down this high cost as the demand for the drug increases.

Diagnosis of Calculus by the New Photography.—The *Bulletin de l'Académie de Médecine*, June 2, records Dr. D'Arsonval's opinion that a great diagnostic advantage will soon be reaped, in regard to renal and vesical calculi, by the Roentgen photography. The latest pictures obtained by Chappuis and Chanel, have an especial value, since they show that it will soon be possible to diagnose calculi in the urinary passages with absolute exactness. They not only show the existence of a calculus in the bladder, kidney or ureter, but it is possible to distinguish the substances of which it is composed, whether it is homogeneous or formed of different layers, whether the kernel is small or large and of what it is composed. The most interesting photograph from this point of view showed: 1, the silhouette cast by a calculus of pure uric acid; 2, that of a calculus the same size as the first, but composed exclusively of phosphate of ammonia and magnesia; 3, that of a calculus much larger than the others, formed of several distinct layers of uric acid in the center, with an outer layer, 4 mm. thick, entirely different in color, and composed exclusively of the triple phosphate; 4, the silhouette of a bone 1 cm. thick, and another of the index finger of one of the experimenters. The differences in the depth of shadow in this photograph are so marked that it is impossible to mistake the characteristics and kinds of the calculi. The tiny kernel of uric acid is distinctly visible, while the outer layers of the large calculus are represented by clearly defined rings. A second photograph showed another calculus with a kernel formed of soda urate, inclosed in an outer layer of the triple phosphate, both very clearly defined in the photograph. A third represented a number of uric acid calculi lodged in the parenchyma of the kidney, one-half of which was 5 cm. thick. The rays passed through this thick layer of tough tissue and the calculi alone showed in the photograph. It will be a simple matter, therefore, preliminary to an operation, to take the photograph of similar calculi, and then compare them with the results of photographs taken through the patient.

Cod Gall for Cod-liver Oil.—Dr. Clarence Wright, in London *Lancet*, July 11, writes on the above subject. He says that while the claim of cod-liver oil as a powerful alterative in diseases of the respiratory tract has long been recognized, yet, owing to its unpalatability and the nausea oftentimes attendant on its administration, it is the common experience of all that the cases which on theoretic grounds are selected as most suitable often prove least amenable to such treatment. These are for the most part cases characterized by a general wasting of the body and failure of its nutritive functions. How insuperably difficult it is to overcome this inherent propensity of the oil may be remarked when we notice how the ingenuity and art of the pharmacist have been strained to the utmost in devising ways and methods whereby it may be disguised if not destroyed. Its combination with malt, the hypophosphites, etc., are so well known that allusion to them would be superfluous. It would likewise prove a useless reiteration to enumerate the many oils and fats that have been proposed as substitutes for it. However feasible such substitution as a theory may seem, yet in practice their use has not been attended by any marked success. Cod-liver oil has been proved by French investigators to owe its activity, not to any peculiarity in the nature and constitution of its oleaginous constituents, but to certain definite antemortem products of liver action, which not only promote the absorption of the oil, but also materially assist digestion and exert the well-known alterative action. It has likewise been proved by examination of frozen and prepared sections of a fresh liver that these physiologically active constituents of cod-liver oil are of biliary origin, for their distribution in sections so made bears a definite relation to the ramification of biliary radicles, and not to the fat cells of the liver. "I was induced thereby to utilize that biliary product of unchallengeable antemortem liver action cod gall as a substitute for cod-liver oil, and I can now after a trial of eighteen months, say that I have every reason to believe it an efficient, active and palatable substitute for cod-liver oil, and one that deserves a trial. My usual method of employing it is by making a wine of cod gall (vinum gadeo-morrhuine) by adding one ounce of fresh gall, along with two and a half drams of extract of pancreas, to a pint of wine (sherry or port optionally), and after ten days filtering it through some cotton. I administer the wine so made in doses of one to four teaspoonfuls at or after meals four times a day."

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INFORMATION WANTED.

It would greatly facilitate the prompt delivery of the JOURNAL to those members of the ASSOCIATION living in large cities, if they would kindly furnish this office with their street address in those cases where it is omitted from the wrapper of their JOURNAL, as we have been notified by the postmasters of the larger cities that second-class mail matter not having street address, would be placed in the general delivery to await call.

SATURDAY, AUGUST 29, 1896.

A NEW MEDICO-LEGAL QUESTION.

The highest criminal court of the city and district of Magdeburg, Germany, in May last, decided a case that is entirely new in medical jurisprudence.

The defendant, Dr. HIRSCHFELD, treated a case of serous inflammation of the cellular tissue of the arm which resulted in septicemia and death, without any spirits or supporting wines. When the case became serious it was sent to the hospital and death followed. Dr. BOEHM, a member of the medical council and hospital, accused Dr. HIRSCHFELD of neglect of proper treatment in keeping the patient on what he called "a cold liquid diet," rather than the strongest wines, and most nourishing foods. The court charge was acceleration of death, or homicide by negligence, in not using spirits freely. Dr. HIRSCHFELD was permitted to present a scientific defense of his treatment of the case. He asserted that in his long experience he had never used any form of alcohol. He considered it very mischievous, and that it never added strength, but always detracted from the power and vigor of the case. A series of statements were offered by Prof. BINS of Bonn, Prof. STRUMPELL, of Erlangen, Prof. HARNACK, of Halle, Dr. SMITHE, president of the German Medical Society; also the medical council of Saxony, consisting of five physicians with the president, all confirming the following general facts: "The idea that alcohol gives strength is deception, while any form of alcohol may produce an apparent form of stimulation, there is always a reaction in a profoundly marked diminution of energy. The special paralyzing action of alcohol on the brain and spinal cord is no longer a theory, but a fact that can be measured and proved. We are confident that experience will fully sustain our beliefs that no single human life, which would have fallen a prey to death without alcohol, has ever been saved by alcohol."

These general facts were supported by voluminous statements and clinical experience. The court adjourned twice in order to secure a great variety of authoritative opinions, and Dr. BOEHM, the prosecutor, seemed to rely on the statement of text-book authorities; finally the following discussion was presented by the court: After stating the legal aspect, the judge remarks: "It appears from the authorities offered, that in regard to the diet of fever patients strong soups and wines have in a comparatively recent period, been abandoned as increasing the fever. Prof. BINS has reported an instance where the medical man was arrested for treating a case of fever with alcohol alone. It is clear that opinions in regard to the value of alcohol have materially changed, inasmuch as its stimulating effect on the heart is regarded by many as valuable, and some maintain that it is always capable of lowering the temperature. Notwithstanding among the most eminent practitioners at the present day, there is a large number of opponents of this remedy. Some declare with emphasis that they have better success in their hospital and private practice without the use of a drop of alcohol than otherwise. It appears quite certain that alcohol in large doses exerts a paralyzing influence, increases the decomposition of albumin in the organism and is thus capable of influencing the course of the disease unfavorably. Therefore, without giving any definite judgment on this difficult question, we shall adhere to the principle that it is entirely inadmissible to lay down any limits to the exercise of the individual judgment of the physician in such matters." The defendant was accordingly acquitted. It would appear that considerable personal feelings were combined with this case, and a strong disposition exists to hold prominent medical men responsible for any new innovations of treatment where alcohol is supposed to be the remedy.

It is also noteworthy that the opponents to the use of alcohol as a remedy are very formidable in culture and scientific reputation, and defend their theories with great emphasis and spirit. This case is also of great interest, from the eminence of the parties in the contest, both of them being teachers of medicine and eminent practitioners. It would appear that no question of this nature could ever come into court in this country, because the use of alcohol therapeutically is becoming more and more unsettled every year, and while there is only an occasional paper in the medical journals, relating to this question, there is a wide-

spread distrust and skepticism of the value of alcohol as a medicine.

It is a curious fact that alcohol as a beverage is not much disputed, but when given as medicine its value is questioned at once, especially in continental Europe. Evidently a great revolution of theories concerning this drug has begun.

THE AUGUST HEAT.

The month of August was ushered in by a torrid temperature causing a reign of terror throughout the central and eastern sections of the country which equaled, if not surpassed, all previous records of lives destroyed by climatic causes. Day by day a stationary high thermometer swelled the long list of victims and the humid nights furnished no relief to the perspiring and exhausted multitudes. Even Chicago, "The Windy City," discarding her sobriquet, missed the invigorating breezes from Lake Michigan, and for a period of ten days the atmosphere was tainted by the odor of hundreds of putrefying animals lying in the streets, which the city authorities were powerless to expeditiously remove.

We are indebted to Acting Commissioner of Health, FRANK W. REILLY, M.D., of Chicago, for the mortality statistics of the various cities. The death rate in Chicago for the week ended was 697, making the annual death rate 22.38 per 1,000, as against 579 deaths during the preceding week with a rate of 18.62. There were 148 deaths from sunstroke during the week ended August 15. The following shows the mortality of four Eastern cities: New York, heated term began August 4; total deaths 2,429; maximum temperature August 9, 98; previous record July 24–30, 1892, total deaths 1,615, mean temperature 83, maximum temperature 97. Philadelphia, heated term began August 2; total deaths 1,328; mean temperature 82.7; maximum, August 11, 98; previous record June 30 to July 13, total deaths 1,649, mean temperature 86. Washington, heated term began August 1; total deaths 39; mean temperature 81; maximum temperature August 6, 98; previous record July 1 to August 3, total deaths 66, mean temperature 84.9, maximum 97. Baltimore, heated term began August 4; total deaths 344; mean temperature 84.2; maximum 98.

The deaths from sunstroke in Chicago amounted to 165. It is estimated that more than 800 horses fell victims to the heat. These statistics must cause some inquiry as to the diet and mode of life of the victims. As is well-known, alcohol continues to furnish a large proportion of the cases. But unfortunately the statistics are silent on that point.

Prof. STANFORD E. CHAILLÉ has well summarized the points to be remembered concerning hot-weather diet. In a recent letter to the Editor he says:

1. Nature's first lesson—a prolific production of edible and appetizing vegetables and fruits.

2. Nature's second lesson—a decrease of appetite, especially for fats and meats, and its greater gratification with vegetables and fruits.

3. The greater needs of the body for temperance in eating and in alcoholic indulgence.

4. The more abundant growth of microbes, and hence the greater need for cleanliness of food.

5. This greater need of microbic cleanliness most urgently requisite in the diet of infancy and childhood, and especially as to milk.

This last point is one to which too much attention is not likely to be given. For the benefit of those interested in these matters we reprint below an item which appeared in this JOURNAL December 29, 1894.[1]

It will be seen that while 1896 has contributed liberally to the heat statistics of the world, the season we have just passed through was by no means phenomenal. A London periodical in a recent article touching man's power to endure heat says:

To begin with, the difference between the highest and lowest limits is estimated at 250° Fahrenheit. French troops in Algiers must frequently march and maneuver at a heat of 122° above zero. A French professor has, during a stay in the Sahara with a tribe of Tuaregs, observed a heat of 153°.

Attendants in Turkish bath establishments work ten hours a day in rooms where the air is artificially heated to 155, 175, and even to 195° Fahrenheit. A scientific gentleman in Paris not long ago spent fifteen minutes in a hot air room of the Paris Hammam, in which the dry air had been heated by his order until the thermometer registered 250° Fahrenheit. Issuing from this room, he plunged immediately into a bath filled with water of about 53°, a difference of 200° Fahrenheit which his body passed through in less than a minute.

On the other hand, man will stand greater cold than any of the other mammals. For instance, during the journey of Prince Henry of Orleans through the Central Asiatic highlands the party frequently had to withstand a temperature of 40 degrees below zero. The quicksilver in the thermometers had frozen solidly at this temperature, and even the alcohol in the alcohol thermometers became thick. Horses and camels died from exposure, while none of the men in the party suffered in the least.

In North America intense cold is frequent. A Captain Burn once measured at Fort Reliance a temperature of 70° below zero, while Captain Dowron, at Fort Rae, saw the thermometer down to 88° below zero in the month of April. The lowest temperatures known, however, have occurred in Siberia, where a temperature of 50° below zero is not uncommon, while at Werchojansk a temperature of 93° below zero has been observed. It appears, therefore, that men can stand a cold of 90° below zero, while a heat of 160° and even 180° Fahrenheit appears to be the extreme limit in the opposite direction. No animal is known which is able to resist such changes of temperature.

It must be remembered, however that power to resist extremes, to resist great changes in temperature, does not insure power of resistance for long

[1] PHENOMENALLY HOT YEARS.—The recent mild winter weather in this country somewhat breaks the force for us of the contrast which the *Journal d' Hygiène* endeavors to make in furnishing a list of phenomenally hot years as "agreeable reading now that cold weather is at hand." Among the most remarkable of these torrid years, all of which had serious effects on the public health, may be mentioned A.D. 738 when the heat was so great throughout Europe and especially in France, that nearly all the springs dried up and thousands perished of thirst. In 879 reapers who staid in the fields after midday fell dead in great numbers. In 990 nearly all fruits dried up, occasioning a great famine and an enormous mortality. In the year 1000, amidst panic fears about the end of the world, the river sources dried up and vast numbers of fish putrefied, giving rise to a general epidemic; it was widely believed that the end of the world by fire was at hand. In 1132 rivers and springs again dried up and the bed of the Rhine became a dry sandy road. In 1182 the sand was so heated that eggs were cooked in it in a few minutes. The Seine, Loire, Rhine and Danube could be passed over dry-shod in 1303. All fruits withered and animals dropped dead from the excessive heat of 1303. Four years of great heat and continuous dryness, from 1538 to 1541, caused many rivers to disappear entirely, crops were failures and famine and sickness carried off large numbers. There were fifty-eight consecutive days of extraordinary heat in 1646. There was no rain from April to October in 1719; the Réaumur thermometer marked over 35 degrees; in gardens which could be irrigated fruit ripened twice. In 1818 the theatres of Paris were closed for a month on account of the heat; the thermometer marked over 38 degrees R. During June and July, 1830, the centigrade thermometers registered over 38 degrees in Paris in the afternoons.

continued heat. It is the long-drawn-out "hot spell" that tests the permanent resistant property of the human frame.

THE EXCELLENT WORK OF THE AMERICAN ACADEMY OF MEDICINE.

The new fields which the American Academy of Medicine have elected to till, and the noteworthy crops at present being gleaned deserve the most respectful consideration of the profession. More than this, its attempt and success in reclaiming waste and abandoned lands and making them yield rich harvests for professional and sociologic good demand the sympathetic interest of every physician who looks upon his work as something more than bread-winning.

For many years, about eighteen, the Academy labored with a singleness of purpose to raise the standards of medical education, and it should not be forgotten that the seed sown by it has been widely distributed by its members and their publications, and has been a highly important means of bringing about the remarkable changes in this respect by public legislation, and in spontaneously chosen standards by medical colleges, now proving and still more to prove of incalculable benefit to all concerned.

But the singleness of aim with which the Academy labored, became (sometimes and to not a few) somewhat monotonous; this fact coupled with the very patent associate factor that the work of the Academy was and remains genuine missionary work, offering no sort of reward, political or financial to its fellows, had served to make the function and even the existence of the organization altogether too little recognized and unsupported.

But all this is now, we are led to believe, a thing of the past, and with its new ground and methods of husbandry, the Academy is attracting the earnest attention not only of the medical world but of that greater world of which we form a part. Briefly stated, in the last two or three years the Academy has undertaken the tillage of the "Bad Lands" of Medical Sociology, not only as pertains to the profession considered in itself, but also as relates to the community at large. It might at first sight appear that this was only the old question of Public Health, but a glance at the last dozen numbers of the *Bulletin of the Academy* in which the papers and proceedings of its meetings have been published will show that without any desire or attempt to infringe upon the territorial rights of the organizations and agencies working these farms, the Academy has found vast domains wherein to exercise its energies. Two years ago the meeting of the Academy was largely given over to the subjects of the relations of the profession to the dependent classes, and the inter-relations of both to the community. Instead of exhausting even the most general of these subjects, it was evident that here was an extremely rich soil, well-repaying years of study and tillage. The reports of this meeting, and the papers read there, as republished in the *Bulletin*, at once gained the attention of medical editors and of the lay-public, and were extensively quoted and bespoken both in this country and in Europe. The general subject then introduced has in subsequent meetings continued to arouse interest, and in future a not inconsiderable proportion of the time and attention of the Academy will doubtless be dedicated to it. At the meeting of last year besides due consideration of this aspect, the question of hospitals, their management and abuses was uppermost in the minds of the attendants. At Atlanta this year, one day's sessions were devoted to medical education again, and the number of the *Bulletin* just at hand (Vol. II No. 8) contains the able papers of many distinguished teachers upon its protean aspects. The "President of the Academy, Dr. HENRY M. HURD of Baltimore, presented a valuable contribution upon "Laboratories and Hospital Work."

Drs. OSLER, PARSONS, GERRISH, ROBERTS, SMITH, WRIGHT, EDGAR, WILSON, TAYLOR, HOLMES, PARK and others dwelt upon the best methods in education as regards the preliminary requirements, and each of the special branches of the medical curriculum. In reading these papers one finds himself in a new atmosphere, even a new world from that of but a very few years ago. Everyone who is interested in practical education and the new ideals and methods now ripening into certain near harvests will not neglect the reading of these articles.

The meeting of 1897 is to be held in Philadelphia and is noteworthy as being the 21st. The celebration of the attainment of its majority should be an exceptional and memorable gathering and the members are already at work to make it so, and to arouse a proper recognition on the part of the general profession to the vital issues of the time. The words of that ideal secretary, Dr. MCINTIRE, concerning the Philadelphia meeting are as follows:

"It has been suggested that next year another phase of the life of the physician and his environment be made the subject of investigation. Probably the theme can be expressed by the phrase. 'The Associated Duties of the Physician,' as by any other, although a more precise wording may be thought out later. There are certain duties to one's fellows that pertain to the profession; unless these are clearly understood and properly defined there is the danger of imposing on the benevolence of the physician on the one hand or an undue selfishness on the other. In either event harm is wrought. These associated duties may be crudely classified as his 1, with his fellow-physicians; 2, with his fellow citizens (as a physician of course); and 3, with the body-politic. The first of these divisions treats of medical societies, their history, use, proper method of conducting, etc.; the associations of physicians having insurance or financial relief in view; indeed of any question involving the united effort of several or many physicians to accomplish. The second division relates to

those problems involving medicine so frequently met with by us all in our private capacity, and in the solution of which we must be associated with our fellow citizens. Questions relating to the sanitary condition of the community, or the physical side of child-life in the public schools; the freely giving of our professional services to those who can not pay at the suggestion of others who, possibly, ought to be asked to share in the giving. While the third division includes the discussion of all questions involving the services of physicians as incumbents of public positions, whether merely of honor, or of honor and some profit. This outline serves to illustrate how extensive a field is included in the topic, and the purpose of this notice is to invite the promise of contributions from the Fellows of the Academy in order to ascertain if it will be practicable to arrange for a day's discussion along these lines. Those who may desire to contribute a paper are asked to write to the secretary stating their purpose and giving the title of the proposed paper. At the same time none of the themes of the previous years have been exhausted, so additional contributions along these lines are still acceptable."

THYROID THERAPEUTICS.

Thyroid therapeutics is an acquisition of the last six years, and one that better than perhaps any other illustrates the close relations between physiologic research and the rational treatment of disease. It is not very long since that the thyroid, like other ductless glands, was a physiologic puzzle, and the theories as to its utility in the organism varied from that of its being a merely esthetic appendage to round off the contour of the throat to the attributing to it an important action in mechanically regulating, as a diverticulum, the blood supply of the brain. The recognition of the connection of the cretinoid condition described by GULL with atrophy of this gland by ORD in 1877, and the subsequent experimental studies of SCHIFF and his assistants and of HORSLEY in England, and others, led directly to the theory of the chemico-vital function of the thyroid and to the suggestion of its utility in the therapeutics of myxedema.

While the suggestion and the demonstration by experiment on animals of the efficiency of the extract of the thyroid is due largely to VASSALE and GLEY, the first successful application in a human subject of this treatment was made in England by MURRAY in 1891, the method by hypodermic injections of a glycerin extract having been employed. A little later, in 1892, the more convenient plan of administration by the mouth was substituted for the hypodermic method and has become the general practice. The various preparations in the market seem all, or nearly all, more or less effective, and in some of them at least we seem to possess all the active principles of the gland itself so far as its specific action on the disorder is concerned. While myxedematous conditions are not extremely common, they are, like other newly described affections, becoming daily more and more recognized, and the experience of the profession has already demonstrated sufficiently the practical value of the findings of physiologic experimentation. In any disorder which, like myxedema, seems to depend upon or be connected with deficient functioning of the thyroid gland, the use or, at least, the trial of thyroid extract is indicated and justifiable. Thus there appears to be a certain relation between the thyroid and the pituitary gland, and in acromegaly both are likely to be disordered. In those cases where the thyroid is atrophied, thyroid extract is probably indicated; where it is hypertrophied its utility is very questionable. The possibility of a vicarious functioning of the two organs, the thyroid and the hypophysis, suggested by ROGOWITSCH, seems to be disproven by the experiments of VASSALE and of OLIVER and SCHAFER, and the therapeutic experience is not especially in its favor. The results of the use of pituitary extract have not yet been so extensive as to enable us to affirm that its value is at all comparable to that of the thyroid, in the cases where it is theoretically indicated, and the treatment of acromegaly is therefore still a problem for the future.

In exophthalmic goitre the use of thyroid is generally condemned, and yet there have been cases in which it is reported to have been of benefit. While we may admit that as a general rule the theory of MOEBIUS, viz., of hyperthyroidization, best explains the pathology of the affection, there are possibilities of other conditions existing, and the cases where it tends to pass into myxedema (PUTNAM, JOFFROY) are very suggestive of a possible utility of thyroid extract in some stages of the disorder.

Aside from myxedema, the principal affection for which this medication seems likely to be of most value, is obesity. It is abundantly demonstrated by experience that it produces a most remarkable and rapid reduction of body weight, probably on account of its stimulating the fat consumption in the organism and increasing the urinary excretion. The fact that no change of diet is necessary and the comparative safety, so far as known, of the treatment, makes this property a very valuable acquisition to our medical resources, notwithstanding the often, or even generally, transitory duration of the effects after the discontinuance of the treatment.

The value of thyroid medication in true goitre must depend on the degree of functional inactivity of the organ. If the disease is, as is probably generally the case in its incipiency, a compensatory hypertrophy, the most we can reasonably expect of thyroid ingestion is that it may supplement an enlarged but perhaps still overtasked organ. It may indeed relieve the hypertrophy in some instances, but it is hardly in the order of things to consider it as yet a specific for this affection. In sclerodermy it has been reported as useful, and this is in accordance with some researches

that indicate a causal nexus between this condition and functional disturbances of the thyroid gland. In other skin affections and in syphilis it has also been tried, but no very positive evidences of its general value have as yet been given.

We are not yet able to say that the whole physiology of the thyroid is known, and therefore may in the future find other functions that will furnish indication for rational therapeutics. It is occasionally deranged we know in a large number of disorders, and whenever its secretory function is hindered or abolished it is reasonable to try thyroid medication. But beside this, this latter has in all cases a decided effect on the general nutrition, stimulating, it would appear, the metabolic changes, and in this way its effects may be valuable. Thus, in many cases of insanity where it has been tried empirically and because of the mental improvement it causes in myxedema, it has been found of benefit. Unless in these cases there was direct thyroid derangement, which it must be admitted may have sometimes existed unobserved, we can best attribute the beneficial effects, in the present state of our knowledge, to this general systemic action producing the change that was required in possibly a critical stage of the disorder, or perhaps we should better say that the stimulation of the systemic metabolism caused the carrying off of toxic substances poisoning and deranging the brain. As a general alterative of this kind thyroid medication may have a decided usefulness in certain cases, apart from its direct specific action in thyroid deficiency. There is possibly more than one active principle secreted by the gland; the thyroidin of BAUMANN alone will suffice to account for the specific effects, as shown very recently by MAGNUS-LEVY, while he states that thyro-antitoxin presents a series of interesting peculiarities that will form the subject of a future publication.

The comparative innocuousness of the extract has been already noted. The inconvenient or excessive action of the remedy in a few cases is probably due to idiosyncrasy, though the possibility of imperfections in the manufacture and of impurities as suggested by LANZ, should not be neglected. In certain cardiac cases it ought certainly to be only employed with caution and the state of the urine and other secretions should always be watched during its administration. But, given with proper judgment and care, it is as safe as any remedy with equal physiologic effects and far safer than many of them. Within its range of usefulness, the limits of which are not yet fully determined, it seems to be one of the most important of recent medical acquisitions.

Sunday Rest for Druggists.—The drug stores of Soissons, France, close now at noon, Sundays, all except one, and the address of this one is placarded on the door of each. They take turns in remaining open this way on Sundays.

CORRESPONDENCE.

A Letter from Professor Edwin Klebs.

CHICAGO, Aug. 23, 1896.

To the Editor:—The paper of Dr. F. E. Stewart, "The Scientific Nature of our Patent and Copyright Laws," in the recent number of the JOURNAL, brings forward facts in the "Klebs Antiphthisin Case" which are entirely new to me, and which induce me to clear up my personal position in the matter.

Though the contents of the paper of Dr. C. P. Ambler, read before the AMERICAN MEDICAL ASSOCIATION, as well as the following discussion, are entirely unknown to me, as I was not present when the paper was read, I learn through the paper of Dr. Stewart some details in the matter which demand explanation of my standpoint on the question.

When I came the first time to this country in the fall of 1894, induced by Dr. Karl von Ruck of Asheville, N. C., to visit his institution, I was in every respect an entire stranger. Dr. v. Ruck made me the proposition to accept a position as director of a laboratory for experimental research and consulting physician to his institution. As the great advantage of an institution with the facilities for scientific research, and at the same time for the practical perfection of my more theoretically developed ideas, seemed evident to me, I accepted the offer, with the greatest expectations in a final solution of all these problems.

By the contract I entered with the Winyah Sanitarium and Hotel Company, whose medical director and president Dr. von Ruck was, I obliged myself to accept the mentioned position in the laboratory of the sanitarium at an annual salary and as well to interest myself financially in the institution, leaving to Dr. von Ruck entirely the management of the medical and business part of the institution, as well as the exploitation of substances prepared in the laboratory. I therefore did not see any harm in the application for a legal protection of Antiphthisin, as this lay entirely in the hands of Dr. von Ruck, whom I would expect to be familiar with the systems and ethics of the medical profession in this matter. In Germany nostrums are not patented at all, and scientific preparations only are patented. These scientific patents are frequently held by members of the medical profession, and I was not aware that there was a difference in the ethic practice of the two countries.

The application for the patent as not complying with the requirements of the office was refused, and Dr. von Ruck therefore tried to induce me to undertake certain experiments to fulfil these requirements. Declaring myself unable to do this and for other reasons, which I explained to the company, I left the institution early this year.

I was met in my efforts for a cancellation of the then existing contract by Dr. von Ruck at the end of May, by his proposition of a new contract. Both parties in this contract agree to cease the manufacture of Antiphthisin in this country. I agree to furnish the preparation from Germany, leaving to Dr. von Ruck the right to sell it here. One-third of my investment in the company was paid me, for the other two-thirds I had to accept notes. I have never received any payment of dividends from the company, only a small compensation for Antiphthisin furnished from my German laboratory, in whose management Dr. von Ruck and myself had equal shares at this time.

Being now more familiar with the customs of this country and better acquainted with the medical profession, I can only regret that ever an attempt was made to protect Antiphthisin by patent, and I am satisfied that this question will not need any further consideration. I consider the rule of the AMERICAN MEDICAL ASSOCIATION against proprietary medicines of

binding force, though its existence was not known to me at the time, and though I agree with Dr. Stewart, that a qualification of these medicines would be very desirable, which would not indorse the whole unscientific nostrum trade. The question has gained in importance since the introduction of bacteriologic products into therapeutics, as a protection by law of their methods of preparation, not in the interest of individuals, but as a guarantee for their purity and efficiency and as a protection against the production of such remedies by untrained hands.

Hoping that Dr. Stewart's paper will find the well merited consideration by the profession, to the benefit of science and further therapeutic efforts and to the strict exclusion of the entirely unscientific nostrums, I am yours very respectfully,

EDWIN KLEBS, M.D.

Herman W. Mudgett alias H. H. Holmes.

MILWAUKEE, WIS., Aug. 20, 1896.

The article of Dr. Eugene S. Talbot in our JOURNAL for August 1, reminds me that I may say something about Holmes which may be of interest to members of the medical profession.

Holmes was a member of my class, which graduated in 1884, and he received his degree of Doctor of Medicine with the other successful members. A few failed in their examinations but Holmes was not among them. I was not intimately acquainted with him but knew him as well as I did any member of the class, excepting my immediate associates. What manner of man he was I remember distinctly and as distinctly recall several conversations I had with him.

Holmes was a mild-mannered young man, with a diffident air, possessing no characteristics in any direction which would attract attention. He evidently had not much in the way of pecuniary means, for he dressed plainly, almost shabbily, and he eked out his expenses by "doing chores" about the premises of Prof. Edward S. Dunster, who died several years ago. As a student he was below the average of the class, decidedly, both in ability to acquire knowledge and in readiness to express what he knew. I distinctly remember his halting, uncertain manner when called upon to answer a question at a "quiz," and I also remember a "scoring" which that earnest, conscientious old man, Professor Palmer, gave him on an occasion because he was remiss in answering a question in physical diagnosis. Indeed, a single circumstance indicating acuteness in any direction on the part of Holmes, can not now be recalled.

Holmes attended the meetings of the Y. M. C. A. Whether he was a member in good standing I do not know. He once told me that he intended to go to New Zealand as a medical missionary after graduation. At another time, when a clerical member of the class took exception to a eulogy of Thomas Paine, given incidentally by one of the professors, he had a supporter and sympathizer in the person of Holmes, when he (the clerical member) took the matter to the president of the University.

He seemed to take a good deal of pleasure in the uncanny things of the dissecting room. One afternoon's conversation with him I remember distinctly. He talked a great deal about what he had done in the dissecting room with, what appeared to me at the time, unnecessary gusto, and told me that the professor of anatomy was to permit him to take the body of an infant home with him for dissection during the spring vacation, which was to begin on the following day. I asked where he would find a place in which to carry on his work without offending his neighbors, and he replied with something to the effect that he "would find a place."

There can not be much doubt that even at this time Holmes would lie when it was to his advantage to do so. On one occasion I was directly concerned in his lying, the circumstances of which may be of interest as throwing some light on his character. It occurred at a final oral examination. The members of the class were called in alphabetical order, one by one, and I was surprised to find Mudgett present himself in front of me. I called his attention to the fact that his name came after mine and asked for an explanation. He said that L., mentioning the name of a student, had gone out of town and that he (L.) had given him his place. I asked him when he saw L., and he said "this morning." Now, I knew as a matter of fact, that L. had left the city the night before, and, moreover, that he had been dismissed from the University in disgrace for attempted cheating in an examination. Feeling a little surprised at Mudgett's mendacity, I told him that I knew he was lying and I told him how I knew it, and that I would not permit him to go in for his examination ahead of me. He received my decision with very ill grace, but made no physical resistance. When I came out I found him in tears, relating the matter to a classmate, and he whined that it was "a damn mean trick" to deprive him of the place given him. This is the last conversation I remember having had with him.

While at the University I can not recall any direct evidence of his fondness for women. On one occasion, the latter part of his last year at the school, he spoke of his wife, and I was surprised to hear that he was married, as, up to that time, I supposed he was a single man. There must, however, have been some story current, connecting Holmes with women during his University life. I have a hazy remembrance of his being charged with some irregular conduct of the kind, and of his making a stout denial. Turning to the "Class Phrophecy" which was written at the close of last year at school, I find that I wrote of Mudgett as follows:

"Herman W. Mudgett, unlike George Washington, no widow shall find favor in his eyes. After being charged with innumerable Don Juan escapades for which he is not responsible, he will retire to write a book on the 'Oppression of Man.' This book will make women very unpopular." This was, no doubt written apropos some affair with the other sex which was discussed by his fellows.

The stigmata of degeneration discussed by Dr. Talbot, no doubt existed at this time; but they did not attract enough attention to cause any remark that I ever heard, except on possibly one occasion. Following a custom which then existed, the members of the senior class ordered silk hats and a representative of a Detroit firm came to Ann Arbor to take the boys' measures. In doing this the usual periphery was sketched on paper. As is well known some startling irregularities are sometimes disclosed by this proceeding. A friend and myself took a good deal of interest in these outlines and Mudgett's was inspected among the rest; but I am unable to say what the irregularities were in his case, or how valuable they were if they existed. The outline may still be in the hands of Walter Buhl of Detroit.

It is not the purpose of this article to discuss Holmes as a probable degenerate. I simply write the facts concerning him, as far as I know them, while he was a student in the University of Michigan. On the whole the impression I had of him before he became notorious as a criminal, was that of a liar and sneak without ability or courage to do great deeds in any direction.

JOHN MADDEN, M.D.

Concerning Dispensaries.

NEW YORK, Aug. 20, 1896.

To the Editor:—A circular of information wanted, is being sent to the various dispensaries of New York City by the State Board of Charities. I presume that it is sent to all dispensaries alike, both large and small. Among the questions to be answered are the following:

6. If connected with a medical college, hospital, or any other institution, state the name thereof.

7. The name of the governing board of the dispensary.
8. The stated times of meeting of said board.
9. The average attendance at meetings.
10. How often have the members examined the work of the dispensary?
13. What forms of records are kept?
14. What means are employed to determine that each patient is unable to pay for medical or for surgical treatment?
15. What charge, if any, is made to patients for treatment?
16. What charge, if any, is made to patients for medicine?
17. If any members of the medical staff are paid for their services, state for what service, and at what rate?
20. How are the medical men selected, and by whom?
21. Are any physicians or officers appointed after competitive examination?
22. Do the physicians ever treat the patients as their own private patients, and if so, give the particular rule under which the charge is made?
28. Is there a class of physicians assigned to the treatment of patients at their homes?
29. What pay do they receive, and from what source?
31. How many of the patients were non-residents of the county in which the dispensary is located?
38. Is a collector employed to solicit contributions?
39. If so, at what rate of compensation?

S. F. B.

Audi alteram partem.

A Defense of the Bicycle.

BIRMINGHAM, ALA., Aug. 21, 1896.

To the Editor:—Will you kindly allow me space to comment briefly on an editorial in the JOURNAL of the 15th inst. entitled "Bicycling Pro and Con."

I would like to ask how many cases of deformity of the female pelvis from this cause have been noted? Also, how many patients have applied for treatment for vesical and prostatic irritation caused by the bicycle saddle?

To place the bicycle in its proper place as a machine for good or evil, it would seem to be necessary to compare all such damage done with the good it has accomplished. The great advantage which the wheel has over all other modes of exercise is the pleasure it affords. The therapeutic value of fun is, I think, undisputed. It combines fun with plenty of fresh air and exercise, and if there is any better combination from a health standpoint it is yet to be reported. The tired drudge of a clerk or book keeper, after being on his feet all day, does not relish such a prescription for his dyspepsia as a "long walk," but he can ride a wheel and enjoy it, and at the same time promptly cure his dyspepsia.

The reason for the wide extent of "the craze" is just this combination of exercise, pleasure and fresh air, which reaches all classes. And the good it accomplishes I think far outweighs the occasional harm it may do to a young girl or an old man.

Where little girls once spent all their idle time cramped up in a corner of a nursery, with their dolls or inane amusements, pale faced, dull eyed and constipated, or strolled languidly along the street in groups, anemic, round shouldered and spindle shanked, they now ride wheels and are animated, strong limbed and healthy. No doubt the morals of a few older girls suffer, but they are far fewer than was the case under the old style of buggy driving and entertaining their men friends in dark corners.

Idleness and erotic thoughts always go together. There are no such safeguards anywhere against bad habits as active mental and physical exercise. The reproductive instinct, the sexual appetite, is the result of a surplus of energy left after the body heat and growth, and the mental and physical expenditures, have been supplied.

There is no evidence, so far as I know, to substantiate the theory that the bicycle will deform the pelvis, and there is no more reason for it than to suppose that sitting on a chair will do it. On the other hand, it develops all the pelvic muscles, and must, by the general good health it induces, make the girl stronger in every way.

The bicycle costumes and contours are shocking to conservative eyes just as the modern bathing suits are shocking to the eyes of our Uncle Reubens and Aunt Marias, while others would feel it infinitely more shocking to see a bathing skirt which reached down to the heels. But the bicycle girl, like the summer girl, has cut her clothes for convenience, and will likewise probably leave the Uncle Reubens and Aunt Marias to get over it as best they may.

The bicycle has too many advantages pointing to its permanency to be called a fad. The people who first took advantage of comfortable railway coaches were, no doubt, called faddists by their philozoic contemporaries, and no doubt a great cry was raised about the harm to come to the morals and the hemorrhoidal veins of the nation from the slothful and luxurious habit of sitting all day on the soft and warm cushions. But the railway was more than a fad, and anything like a just recognition of its merits must show that the bicycle has also come to stay.

Book keepers, salesmen and others, whose lives were once one round of drudgery, bad air, no exercise and dyspepsia, now live two or three miles out in the country where their families can be healthy and they themselves can live on something more nourishing than tea, toast and pepsin.

Finally, the bicycle takes young men away from the saloons and those other places the natural allies of the saloons, the frequenting of which probably gives rise to a thousand cases of prostatic and vesical irritation where the bicycle saddle causes one.

The writer does not ride a wheel, consequently has no personal experience of vesical or prostatic irritation to report. He can readily see, however, that a busy practitioner forced to an explanation of a vesical irritation in his own person, by a recently developed monomania for urinals would be unfortunate indeed if he did not have a wheel to charge it to.

2220 1st Ave. GEORGE S. BROWN, M.D.

Practice in Africa.

MILWAUKEE, WIS., Aug. 20, 1896.

To the Editor:—Will you please inform me if our American diploma is accepted to practice medicine and surgery in any and all parts of Africa, and if not what procedure I will have to undergo to begin practice in that country. I was under the impression that anyone could practice in that country who was a regular graduate. Will you please be kind enough to give me the desired information I ask and oblige yours fraternally,

W. C. ARONS, M.D.

211 Grand Ave.

ANSWER:—Each country having provinces in Africa, has a different regulation. The independent states also have special regulations. A letter to the colonial governor in the case of the provinces would give you the desired information.

Albinism.

NEW YORK, Aug. 22, 1896.

To the Editor:—As bearing on the subject of racial degeneracy, I report the following cases:

1. Mrs. B., an ultra-blonde, native of county Wexford, Ireland (limestone region), recently died of aortic stenosis and cerebral embolism, leaving as surviving family: a sister, congenitally hunchbacked, a deaf and dumb son, and two daughters, one unusually tall, who is goitrous, the other a *full albino*.

2. Miss C., aged 28, whose parents both were deaf mutes,

has a streak of *perfectly white hair* an inch in width, extending from occiput to forehead; this was congenital.

I ask the question therefore, is not albinism like deafmutism, goiter, dwarfing, etc., evidence of racial degeneracy? Certainly there exists some relation between vitiligo and leprosy, and the latter is found only in degenerate classes.

ALBERT S. ASHMEAD, M.D.

Civil Service Commission.

CHICAGO, Aug. 24, 1896.

To the Editor: The Chicago Civil Service Commission will hold an examination for the position of medical inspector of the City Health Department (salary $75), September 3, at 2 P.M., in the Council Chamber. Applications must be filed at the offices of the Civil Service Commission on or before September 1. Candidates must present evidence of recognition by the State Board of Health of Illinois to practice medicine in this State before application will be received.

Examining Board: Drs. Wm. Cuthbertson, Maurice L. Goodkind, S. C. Plummer, Arthur R. Edwards, Jos. R. Hawley. Respectfully, E. J. PHELPS, Secretary.

BOOK NOTICE.

The Journal of Experimental Medicine. Edited by WILLIAM H. WELSH, M.D., Baltimore. Vol I, No. III. New York: D. Appleton & Co. 1896.

A stately volume of more than 200 pages, showing in its various contents how timely and successful appears the gathering of American experimental work in one organ. This will excite more and more the emulation of the investigators and of the institutions dedicated to this work.

If it is practical to bring about also pathologic and anatomic labors, I am not sure. But the division of the two lines of scientific investigation can be made later, if it seems to be needed.

We can give here but very short indications of the rich contents, hoping that they shall provoke the reading of the original.

1. On the pigment of the negro's skin and hair, by John T. Abel and Walter T. Davis, from the pharmaceutic laboratory of the Johns Hopkins University.

A fine chemic work, showing that the pigment of the negro's skin and hair forms, as is known, cylindric or rod-like granules, contained in epithelial cells. The authors show that the pigment can be made soluble by treating the granular part by diluted hydrochloric acid, then by diluted alkalies. A very skillful use of acetic acid, ammonia and precipitation with alcohol ether (6 to 1) grants a high degree of purification. The brownish powder gives a markedly acid reaction. The first high percentage of salts can be reduced from 0.8 to 1.2 per cent. The quantity of pigment in the epidermis (3.08 to 3.78 per cent.), is greater than in the hair (1.9 per cent.).

The acid is probably identic with the hippomelaninic acid, prepared by Berdez and Nencki from melanotic tumors of the horse. The non-colored ground substance seems to be derived from keratin, giving pyrrol and hydrocyanic acid in dry distillation.

The substance has a very high percentage of sulphur (3.6 per cent.) and is nearly free from iron, a fact which correctly brings the authors to the conclusion that the hemoglobin, containing but a little more than .05 per cent. sulphur, can not be regarded as the mother substance of the melanin. That the melanin probably must be derived, as is suggested by the author, from proteids of the parenchymatous juices, coincides very well with the anatomic facts proved in melanotic tumors and the suprarenal melanosis (morbus Addisonii).

2. W. J. Bradley brings an anatomic description of hemorrhagic cysts of the thyroid gland, and thinks to have found a new form of goitre. So far as the writer can see, it is no other than a secondary degeneration in glandular and colloid struma.

3. A. C. Abbott has found in the Schuylkill River in Philadelphia a vibrio, very similar to V. Metschnikovii, and studies its cultural, biologic and morphologic properties in a very intensive and careful manner. The discovery of such a suspicious vibrio, of near relationship to the vibrio of cholera Asiatica, in a place that was free from cholera since 1873, is of a great practical and theoretic interest.

4. The same brings experimental investigations over the influence of alcoholism upon the susceptibility against certain pathogenic organisms. As control-animals suppported infections that killed the alcoholized animals there can not be a doubt that the very high alcohol doses used in rabbits (10 to 15 c.c.) must heavily depress the normal faculty of resistance.

5. I. Adler and S. J. Meltzer (New York), have worked on the question of "the path by which fluids are carried from the peritoneal cavity into the circulation." By tying in rabbits the innominate veins, the authors searched to exclude the lymphatics; afterward they observed the quantities of fluid reabsorbed in a certain time (mostly forty minutes) from the peritoneum. Injecting small quantities of potassium ferrocyanid, they found only a retardation of the excretion in the urine, marked by the Prussian-blue reaction, showing that by excluding the lymphatic circulation thus indirect penetration of the peritoneal fluid into the blood vessels takes place, but after a longer time. After injecting larger quantities of fluids into the peritoneum, much more complicated processes must be expected, depending upon the quantity influencing the circulation, and upon the composition of the injected fluid, influencing the osmotic process.

The exclusion of the lymphatic ducts effects also in this order a retardation in the process of resorption, but the exceptions from the rule are greater and the differences not so striking as after injecting small quantities. Finally, they find the greatest resorption from the peritoneum in dead animals, demonstrating the swelling of tissues (Quellung) effected by the osmotic process. Also filtration was effected in these experiments by the gaseous distension of the intestines. The path in which, under these circumstances, the fluids are carried from the peritoneum, is shown by the edematous infiltration of the surrounding tissues.

In the explanation of these phenomena the authors find difficulties which they, as it seems to me, can not wholly resolve (pp. 518 and 519). They state a marked difference between lymph and tissue fluid, but they can not detect the forces that direct the movements of these fluids; forces that they do not like to name "vital forces." Certainly, if the entrance of fluids from the peritoneum into the tissues occurs also in life, as in death, there must be some forces that will cease with life. That is, what physicists may name "vital forces" so long as the physic of the living body is not more recognized as yet. The problem will absorb much labor before the truth is declared, but there is made by the authors a good step toward this end.

6. S. J. Meltzer reports very curious experiments on gastric resorption. Strychnia solutions are not reabsorbed and will not kill the animal, if the introduction into the intestine is hindered by ligature of the pylorus. Hydrocyanic acid, on the contrary, results fatally injected in the ligated stomach, as the author suggests, possibly by its volatility. It would have been interesting to see a statement of the action of the soluble salts of the same acid.

7, 8. B. Meade Bolton brings some studies over the modern theme of antitoxin, the first with Herbert D. Pease on the production of antitoxin by the passage of electricity through diphtheritic cultures, the other on antitoxin in normal horse blood.

The authors use in contrast to the last observers (D'Arsonval and Charrin, Bonomi u. Viola, *Centralbl. f. Bact.*, xix, 22, 23) constant currents of 110 volts (of the Edison light) working on diphtheria cultures in H-shaped tubes for dividing the products formed at the two poles. The products at the positive pole

had decided antitoxic effects, if mixed to efficient toxin in the proportion of 1 to 5 c.c. The product of the negative pole was inefficient.

Probably the toxins are destroyed by the current and the antitoxic effect depends upon the healing substance contained in every culture of diphtheria.

Bolton found antitoxic properties in the serum of some horses. The immunization of these animals is going on with very slight reaction. But reaching doses of more than 100 c.c. toxin, there is no more difference in reaction.

9. Henry G. Beyer gives the results of regular exercises on the growth and weight of naval cadets from 16 to 21 years of age. The increase in height reaches to nearly one inch, of weight to 25 kilos, over the increase in untrained young men of the same age. The lung capacity had gained in the five years 1,722 c.c. more in the trained than in the untrained.

10. Simon Flexner (Johns Hopkins University) reports in a highly interesting treatise the results of bacteriologic studies made regularly in the postmortems of the pathologic department (H. Welsh). We can not reproduce here the details, but it is clear that, if in 255 cases 213 or 83.5 per cent., give positive results, we have an important death-promoting factor not yet estimated. It is also shown by plate cultures that in cases of patients with bad prognosis, the bactericide power of serum is highly diminished, a fact in apparent connection with the origin of these "terminal infections."

NECROLOGY.

WILLIAM C. BENEDICT, M.D., well known to the medical fraternity in Brooklyn, N. Y., for the last fifty-two years, died August 17. The cause of death was heart failure, brought on by the intense heat of the previous week. Dr. Benedict had been suffering from heart disease for a number of years. He became seriously ill on Thursday evening, but it was not expected that the attack would prove fatal. Dr. Benedict was born in Schenectady on April 19, 1820. He graduated from Union College in 1840 and from the Medical Department of the University of Pennsylvania in 1844. After his graduation he became connected with the Blockley Hospital for the Insane in Philadelphia, where he rose to the position of chief physician, and remained two years. He then became one of the managers of the Insane Asylum at Poughkeepsie, which place he filled for about a year. He moved to Brooklyn and became prominent during the cholera plague. He is said to have treated the first cholera victim and was successful in saving his patient's life. He served as physician at the Raymond Street Jail for a number of years. Altogether, Dr. Benedict practiced for forty-five years, retiring in 1877, after which he made a tour of Europe.

LEWIS MCKNIGHT, M.D., medical director, at Milwaukee, Wis., August 21, of neuralgia. He was 71 years of age and a native of New Jersey. He graduated from the Medical Department of the University of Pennsylvania, Philadelphia Pa., in 1841.

WILLIAM C. PARKER, M.D., at Santa Cruz, Cal., August 11, after a lingering illness, aged 73 years. Dr. Parker was a native of New York and had just graduated with high honors in medicine and surgery when he received his appointment as surgeon in Colonel Stevenson's famous regiment, which was dispatched from his native State to California in 1846. At the close of his military service a few years later he settled in San Francisco, where he was prominent in professional and business circles for over thirty years.

ANDREW J. PIERCE, M.D. (Jefferson Medical College, Philadelphia, 1856), at Kansas City, Mo., August 13, aged 64 years.

JOHN H. CALLENDER, M.D., at Nashville, Tenn., August 7, aged 64 years. He graduated from the Department of Medicine of the University of Pennsylvania, Philadelphia, in 1855, since which time he has been in general practice in Nashville, except from October, 1861, to February, 1862, when he served as Surgeon in the Confederate Army. From 1855 to 1857 he was editor of the *Nashville Patriot*, and from 1866 to 1869 editor of the *Union and American*. In 1858 he was appointed professor of materia medica and therapeutics in the Shelby Medical College; in 1868 professor in the same chair in the Medical Department of the University of Nashville, and in 1870 professor of diseases of the brain and nervous system in the Vanderbilt University and the Medical Department of the University of Nashville. In 1869 he was appointed medical superintendent of the Tennessee Hospital for the Insane. He was a member of the AMERICAN MEDICAL ASSOCIATION, American Medico-Psychological Association and Tennesse State Medical Society.

J. A. S. GRANT BEY, M.D. Our readers will regret to learn of the death of Dr. J. A. S. Grant Bey of Cairo, Egypt, which occurred July 28. He was well known in this country, having attended the Ninth International Medical Congress at Washington in 1887, and the Columbian Exposition of 1893 in Chicago. No foreign visitor made more friends in the short trips made to America than the subject of this notice.

ROBERT FLEET SPEIR, M.D., of Brooklyn, and brother of the late Dr. S. Fleet Speir, died August 13, at his home, of valvular disease of the heart with dropsy and some intercurrent renal impairment. He had been ill about six months. His early training was obtained at the Polytechnic Institute of Brooklyn, and he was a graduate from the University of Vermont, just thirty years ago. He had not been in active practice for many years.

MARTIN C. MCCARTHY, M.D., of Brooklyn, died August 12, aged 30 years. He was a graduate of the New York University Medical School in 1891. Dr. McCarthy had a large practice in the eastern district of the city. The numerous cases of sudden illness caused by the heat overtaxed his strength. Dr. McCarthy came to Brooklyn from North Adams, Mass., five years ago, and obtained rapidly a profitable practice. He was married three years ago to Miss Rose McKeever, of Pittsfield, Mass. The cause of his death was certified as being acute renal disease, with a duration of less than three weeks.

NORMAND SMITH, M.D., of Yonkers, died at Keene Valley, N. Y., July 30, from apoplexy. He was a graduate of Yale, 1858; obtained the degree of M.D. from Columbia in 1861, and subsequently studied at Berlin and Vienna. He practiced medicine in New York for many years, and up to the time of his death was a member of the Century Club. Dr. Smith suffered from his first attack last January. The second was some time during last month, from which there was a temporary recovery. He leaves a widow with five children.

JOSEPH AUGUSTUS MONELL, M.D., a general practitioner in New York city for about forty-five years, died at his home August 12. He was born at Middletown, New York, on Sept. 25, 1826, and was an alumnus of the College of Physicians and Surgeons, New York, 1850; a fellow of the AMERICAN MEDICAL ASSOCIATION and of the New York Academy of Medicine, as well as of other leading local societies.

GEORGE R. HENDERSON, M.D., of Brooklyn, N. Y., who died July 28, was a colored practitioner of good position. He was 45 years of age and a graduate from Yale University in the class of 1876. He had been eight years a resident of Brooklyn. His death took place at St. Catharine's Hospital, whither he was taken for treatment on account of an overdose of morphin accidentally taken, for the relief of pain.

ALGERNON SIDNEY ROBERTS, JR., M.D., of Philadelphia, died August 17 at Halidon Hill, R. I., near Newport. He was a graduate of the University of Pennsylvania, 1877. He made a promising professional opening, but social and other opportunities led him to retire from active practice several years since.

WOODMAN W. ROYAL, M.D. (Medical School, Maine, 1863), died at his home in Portland, Ore., July 22, aged 61 years.——James W. Green, M.D. (Rush Medical College, Chicago, 1856), a member of the AMERICAN MEDICAL ASSOCIATION, and at one time president of the Shelby County Medical Society, died at Shelbyville, Ind., July 26, aged 72.——James Hanghey, M.D. (University of Louisville, Ky., 1846), died at Scooba, Kemper County, Miss., in his 79th year, July 26.——Richard G. Wharton, M.D. (University of Pennsylvania, 1837), died at Port Gibson, Miss., July 30, aged 82 years.——Elias S. Boatner, M.D. (Tulane University Medical Department, New Orleans, 1891), died at his home in Victoria, Texas, August 1.

PUBLIC HEALTH.

Mortality Report.—There were sixty deaths in Louisville during the past week; none from typhoid fever though there is a great deal of it in the city. Seven cases of diphtheria were placarded and two cases of scarlet fever.

Vital Statistics of Cape of Good Hope.—A preliminary report issued by the registrar of births and deaths contains an account of the working of the new registration law of 1894. For the year 1895 there were registered 45,642 births, 31,467 deaths, and 7,358 marriages. Exclusive of the native territories, and taking the population in 1895 at 1,143,846, the birth rate amounted to 32.8 per 1,000 population and the death rate was 21.7 per 1,000. These figures will be somewhat increased in the final report owing to the addition of delayed returns.

New Respirator for Factory-Workers.—A valuable prize has recently been awarded by the French "Society for the Prevention of Accidents in Industrial Pursuits," for the best form of respirator produced, to Dr. Detourbe, whose design has now been adopted in quite a number of the most important workshops in northern France. The arrangement in question is described as a mask so shaped as to fit the lower half of the face closely, but not so as to interfere with the wearer's vision; a chamber in the middle, through which the air is filtered, which projects only a slight distance from the rest of the mask, contains a layer of asbestos and also one of cotton or wool, arranged between small plates of aluminum gauze. The mask is of copper, and a strip of elastic felt runs around the inner surface near the edge, thus insuring the necessary contact all around, and the device is held on with light elastic bands encircling the head, one being on a level with the forehead, and the other about opposite the lower lip. The orifice is of such a size, and the lining of the chamber so loosely packed, that the wearer of the appliance is enabled not only to breathe, but to talk without difficulty, these two points constituting the great advantages of the invention.

Dangerous Water Tanks of City Buildings.—Sundry are the improvements that the fertile minds of architects and builders have pressed upon the modern top-lofty city structures. Divers are the perils that attend these same devices in the case of accident or derangement. Fire Chief Bonner of New York City has said that in that city there are not less than 5,000 unsafe water tanks upon house tops. These are likely to destroy property by leakage at any time, and in case of fire they constitute a serious danger to the firemen of falling through the building when the lofts and roofs are burned away. But if there are 5,000 unsafe tanks, how many foul ones are there. Every such reservoir, furnishing as it does, water for drinking, washing, cooking, etc., should be cleansed every month or oftener, and it is not probable that one in a hundred receives this attention. Perhaps some of the most pretentious dwellings and the most famous hotels have the filthiest water. Too much care can not be addressed to this source of disease by those intrusted with the charge of public health; verily conveniences many and menaces many go hand in hand in our ways of civic life.

Health Officer Doty's Return from Cuba.—Dr. A. H. Doty, Health Officer of the port of New York, returned from Cuba August 17. The object of his adventurous midsummer visit was to arrange with the Spanish authorities for the lessening of the danger from yellow fever. His trip was partly successful. He appointed health officers at Havana, Cienfuegos and Santiago to represent the interests of New York harbor and the country at large. They will inspect all persons bound for New York and prevent those undesirable from a sanitary point of view from embarking. Dr. Doty is reported as saying that Havana is a most unhealthy place. There seem to be no methods of sanitation there at all. Many of the vessels in the harbor are anchored near docks out of which the sewage flows, and thus bring infection away with them. He intended to visit the south side of the island, but he could not do so because the insurgents had practically blocked railroad traffic in that direction. He could not find the health officer or the health office in Havana. "Within the last two weeks preceding my departure," Dr. Doty said, "there were 300 cases of yellow fever there. No attempt has been made to sewer the city properly. By simply cutting through a narrow strip of land and dredging a channel the city's refuse might be carried into the gulf stream and far out to sea. With proper sanitary precautions Havana would be a remarkably fine city. The Spanish soldiers get sick on their way to Havana in the transports. When they land some of them are half dead from the effects of the fever."

Culture Work in Diphtheria for the Buffalo Board of Health.—Dr. W. G. Bissell, in the *Buffalo Medical Journal*, reports upon the bacteriologic work done at the laboratory of the Department of Health in 1895. He says that although a considerable amount of work relating to the diagnosis of diphtheria was carried on in the laboratory prior to January, 1895, it was at that time that the work was begun in a systematic manner. Out of 1,535 cultural inoculations made by the physicians in Buffalo since the inauguration of municipal bacteriologic examination, only eighty-three were found to be imperfect. Occasionally a culture was so neatly contaminated with various bacterial growths that it was impossible to recognize the Klebs-Loeffler bacillus, when the latter was present in small numbers. The smallest amount of certain germicidal fluids, especially the solutions of the bichlorid of mercury, in the throat of a patient at the time of the culture-taking will frequently prevent growth on the culture media. Of the 1,040 cultures which did not reveal the Klebs-Loeffler bacillus, the organisms found, named in order of the frequency of their occurrence, were as follows: Staphylococci, the most numerous being the aureus; cocci without any definite arrangement; streptococci; bacilli other than the Klebs-Loeffler and deserving of special mention, a very large strepto-bacillus was of frequent occurrence; the thrush fungus; diplococci. The greatest mortality in cases of diphtheria appears to be produced by a mixed infection; that is, the specific germ is usually associated with either the streptococcus or the staphylococcus. It seems also to be a fact that when both the staphylococcus and the streptococcus are associated in the same culture with the diphtheria bacillus, that the case is a mild one. From this latter point it would certainly appear as if there was a certain antagonism between the combined cocci and the diphtheria bacillus, and this latter point seems well worthy of consideration and experiment. Many experienced physicians still find difficulty in believing that cases in which the exudate or pseudo-membrane is entirely absent from the pharynx and tonsils are those of true diphtheria, and it is also difficult to impress upon parents that a case is diphtheria and capable of transmitting the infection, although the person infected is hardly in a condition to be called ill.

Health Report.—The following reports of mortality from smallpox, yellow fever and cholera have been received in the office of the Supervising Surgeon-General U. S. Marine-Hospital Service:

SMALLPOX—UNITED STATES.

New Orleans, August 8 to 15, 1 case.

SMALLPOX—FOREIGN.

Alexandria, Egypt, June 4 to 10, 1 death.
Buenos Ayres, May 1 to 31, 15 deaths.
Cairo, Egypt, June 4 to 10, 4 deaths.
Callao, Peru, July 19 to 26, 12 deaths.
Corunna, Spain, July 11 to August 1, 3 deaths.
Dublin, Ireland, July 1 to 31, 1 death.
Guayaquil, Ecuador, August 1 to 7, 1 death.
Hong Kong, July 11 to 18, 2 deaths.

Leith, Scotland, August 1 to 8, 1 case.
Licata, Italy, July 25 to August 1, 1 death.
London, England, August 1 to 8, 22 cases.
Madrid, Spain, July 28 to August 4, 26 deaths.
Montevideo, Uruguay, July 11 to 18, 3 cases, 1 death.
Moscow, Russia, July 25 to August 1, 1 case.
Odessa, Russia, July 25 to August 1, 5 cases, 3 deaths.
Osako and Hiogo, Japan, July 4 to 11, 47 cases, 21 deaths.
Prague, Bohemia, July 25 to August 1, 1 case.
St. Petersburg, Russia, July 25 to Aug. 1, 3 cases, 3 deaths.
Warsaw, Russia, July 25 to August 1, 2 deaths.

CHOLERA.

Egypt: Alexandria, June 4 to 10, 23 deaths; Egypt, June 4 to 10, 133 deaths.

YELLOW FEVER.

Matanzas, Cuba, August 5 to 12, 28 deaths.
Sagua la Grande, Cuba, August 1 to 8, 99 cases, 10 deaths.
Santiago, Cuba, August 8 to 15, 27 deaths.
Quantanamo, Cuba, July 1 to 31, 13 deaths.
Havana, Cuba, August 6 to 13, 160 cases, 52 deaths.
Vera Cruz, Mexico, August 6 to 13, 3 cases.

SOCIETY NEWS.

Mississippi Valley Medical Association.—The time of the twenty-second annual meeting of this Association at St. Paul, Minn., has been changed to Sept. 15–18, 1896.

American Dermatological Association.—This Association will hold its twentieth annual meeting at Hot Sulphur Springs, Va., Sept. 8–10, 1896. The following papers will be read: "A Pathologic and Clinical Classification of the Diseases of the Skin," L. A. Duhring; "Erythema Multiformis," with a report of two cases, W. T. Corlett; "A Peculiar Affection of the Mucous Membrane of the Lips and Mouth," with colored drawings and photographs, J. A. Fordyce; "A Favus-like Eruption of the Oral Mucous Membrane Caused by the Aspegillus Niger," J. MacF. Winfield; "What Effect do Diet and Alcohol have upon the Causation and Course of the Eczematous Affections and Psoriasis," discussion opened by J. C. White; "Cases of Mycosis Fungoides and Sarcomatosis," J. T. Bowen; "Xanthoma Diabeticorum," A. R. Robinson; "Some Glycosuric Dermatoses," C. W. Allen; "The Relation of Dermatitis Heptiformis to certain other Diseases," L. A. Duhring; "Bath Pruritus," H. W. Stelwagon; "Eruption from the Local Use of Iodoform (with colored drawings)," J. A. Fordyce; "Impetigo Contagiosa Universalis," C. W. Allen.

Pan-American Medical Congress.—Dr. C. H. Hughes, honorary president of the Section of Neurology, Psychiatry and Medical Jurisprudence of the Pan-American Medical Congress, is sending out the following invitation to the alienists, neurologists and medico-jurists of the United States:

My Dear Doctor:—Can the Section rely upon you for a paper or subject of discussion for the Pan-American Medical Congress to be held at the City of Mexico, November 16, 17, 18 and 19 proximo?

I have just been informed, rather tardily I think, of my selection as honorary president of the Section of Neurology, Psychiatry and Medical Jurisprudence for the United States.

The meeting promises to be an exceedingly profitable and agreeable one socially and scientifically. We should make the best showing we can for American psychiatry, neurology and forensic medicine. You can materially help in this laudable direction. Will you promise a paper and your presence on this interesting occasion? If so, please indicate on the enclosed your intention to be present. Address Dr. E. Licéaga, Secretary, Republic of Mexico, Calle de San Andres No 4, Mexico City. Yours very truly, C. H. HUGHES, M.D.,
St. Louis, Mo., Aug. 14, 1896. Honorary President.

Accompanying each enclosure is the following announcement and request from Dr. Licéaga, Secretary-General of the Congress:

I have the honor to request your presence in the Second Pan-American Medical Congress, which will meet in the City of Mexico on November 16, 17, 18 and 19 of the present year, sending you separately the respective rules.

I beg of you to answer if you come, and how many persons will accompany you. The invitation is also for ladies, and we hope to obtain a considerable reduction on the round trip rates, but for such reduction the railroad companies must know three months before the meeting the number of passengers and the places they come from.

Please send as soon as you can the answering card, filling the spaces marked for names and addresses.

DR. EDUARDO LICÉAGA, Sec'y 2d P.-A. M. C.
Mexico City, January, 1896.

Dr. Hughes requests his neurologic friends who contemplate attending the Congress and taking part in the work of this Section to accept in his name the foregoing request from President Licéaga and to answer direct to him the questions Dr. Licéaga propounds.

MISCELLANY.

New Edition of Gray's Anatomy.—Lea Brothers & Co., of Philadelphia and New York, announce a new edition of Gray's Anatomy. The few errors of previous editions have been corrected, and many additions made.

Honorary Chairman.—Dr. N. C. Morse, of Eldora, Iowa, has been elected, on behalf of the United States, honorary chairman of the Section on General Medicine of the second Pan-American Medical Congress.

Professor Behring's Resignation.—Professor Behring is about to resign his chair (hygiene) at the University of Marburg, in order to devote himself exclusively to scientific research. Wernicke will probably succeed him.

The Vienna Medical Association.—Dr. Adamkiewicz has been dropped from the list of members on account of his having advertised his cancer cure in the daily press. The inefficacy of the cure was fully established by Professor Albert and others after careful trial.

Serum Treatment of Leprosy.—Carrasquilla's success with fifteen cases of leprosy treated with serum from horses inoculated with the disease, has already been mentioned in this JOURNAL, page 943. A copy of his report to the Bogota Academia de Medicina (Republic of Colombia) has been received. His methods are similar to those generally practiced in serotherapeutics, but until we read a detailed description like this few realize the infinite devotion and courage required in this branch of science.

Evidence Required to Prove Intoxication.—Evidence of intoxication which unfits one for his duties is competent in some cases in investigating whether his acts are negligent or not. But the supreme court of Missouri holds, in Culbertson v. Metropolitan Street Railway Company, decided June 30, 1896, that the mere habit of taking an occasional drink can not be regarded as any evidence of intoxication in the practical administration of justice, whatever abstract theories physiologists may advance on this subject. The evidence should and must go further, and show that the liquor affects the particular individual in such a way as to incapacitate him to some extent to attend to his duties.

Too Speculative Opinion Evidence.—The opinion of a medical witness as to the mental condition of a person at a certain time, based upon a physical examination made eighteen months afterward, where such witness is not informed as to the mental condition at the time when the mental capacity was in question, the supreme court of Kansas holds, in Missouri Pacific Railway Company v. Lovelace, decided July 11, 1896, is largely conjectural, and is too uncertain and speculative to be valuable or admissible. Opinion evidence, the court says, is only admitted from necessity, and then only when it is likely to be of some value.

Does Not Believe in "Fortune Telling."—The supreme court of Michigan affirmed, May 26, 1896, in the case of People v. Elmer, a conviction of "a modern day seer," "clairvoyant," "trance medium," and "healer" as a disorderly person. The court

quotes with approval the language used in the English case of Penny v. Hanson, which was, in effect, that no person who was not a lunatic could believe that the person referred to possessed such power as he advertised, his advertisement and circular amounting to pretending and profession to tell fortunes. And it is idle, says the court, to attempt to draw distinctions between professing to possess a power and pretending to exercise that power.

Detection of Formol Added to Milk.—Some of the milk sold as sterilized in the market has merely had formol added to preserve it, which is certainly not a benefit to infants. It can be detected promptly and rapidly by Denigés' method described in the *Bull. de la Soc. de Phar. de Bordeaux* for July. Boil two to three cubic centimeters of the suspected milk, add 10 to 15 drops of the following fuchsin reagent; then add one c.c. of pure hydrochloric acid. If the milk contains formol, the resulting mixture will be a violet blue, but if there is no formol it will be white like pure milk. The fuchsin reagent is prepared as follows: One-half per cent. solution of fuchsin, 40 c.c.; acq. dest., 250 c.c.; add 40 per cent. bisulphite of sodium, 10 c.c., and pure sulphuric acid, 10 c.c.

The Bertillon Method in Brooklyn.—At the Kings County Penitentiary, this system has been taken up with unusual thoroughness. A medical man, Dr. Stumpf, the assistant physician for the penitentiary, has been placed in charge of its early stages, and he is to have an exclusive cabinet or building wherein to conduct his examinations, and where the photographs and measurements can be made. This building, 20 by 18 feet, will have a north light, an abundant skylight roof and a photographic chamber.

A Characteristic Anecdote of Pasteur.—Once when Pasteur was dining with his daughter and her family at her home in Burgundy, he took care to dip in a glass of water the cherries that were served for dessert and then to wipe them carefully with his napkin before putting them in his mouth. His fastidiousness amused the people at the table, but the scientist rebuked them for their levity and discoursed at length on the dangers in microbes and animalcula. A few moments later, in a fit of abstraction, he suddenly seized the glass in which he had washed the cherries and drank the water, microbes and all, at a single draught.

Atomizer Decision.—May 21, 1896, the United States circuit court of appeals affirmed the decision of the circuit court in the case of Codman v. Amia, holding claims 1 and 2 of the Shurtleff patent, No. 447,064, for an improvement in atomizers, void for want of patentable novelty. This patent, the court says, simply describes a compact form of atomizer, which is better adapted than some others for nasal purposes. The specific improvement set out in the first claim consists in having the nozzle "secured directly to" the "cap or stopper, and adapted to be applied in the nostrils, and in open communication with the interior" of the vial; and in the second claim it consists of a cap or stopper having "its top formed with a seat for the nozzle." An examination of certain other patents mentioned, the court declares shows clearly that there was no invention in these improvements.

Care Required of the Blind.—The blind have as much right, says the supreme court of Florida in the case of the Florida Central and P. R. Co. v. Williams, decided April 14, 1896, to frequent railroad depots, public crossings and other places of danger, as any other of the general public. But, when they do so, due care dictates that they must provide themselves with such surroundings while there as are reasonably necessary to avoid upon their part all the known dangers that encompass the place. It is gross negligence in a blind man to expose himself alone and unattended in any situation where he knows that the faculty of sight is absolutely necessary to the safety of life and limb.

Proper Testimony as to Probability.—In an action for personal injuries the plaintiff's mother testified that since the wound in question had apparently healed it had broken out, and discharged blood and matter; that the wound was very tender; that she called no physician, but cared for it herself. A physician testified as to the cause of its breaking out, and that, from the fact that the wound had once broken out, it was liable to do so again. He was then asked: "What do you say as to whether that result is probable and likely to occur?" This question was objected to; but no objection was made as to want of knowledge by the witness of the facts, or that the form of the question should have been hypothetic, and the appellate division of the supreme court of New York holds, in Penny v. Rochester Ry. Co., decided June 17, 1896, that the question was proper as calling for what was probable and likely to occur.

Physiologic Action of Airol.—The *Gaz. degli Osp. e delle Clin.* of July 5 contains the results of a careful study of the effects of airol made in Mosso's laboratory at Genoa. It was found that it slightly accelerates the coagulation of the albuminoids, and that in cold-blooded animals it retards the cardiac action. In warm-blooded animals the effect differed with the amount administered and the method of administration. There was no toxic action when injections were made hypodermically or into the ear, but symptoms of intoxication followed injections into the peritoneal cavity with renal inflammation. With these toxic doses there were noticeable alterations in the crasis of the blood, due to the special action of the iodin on the hemoglobin. Used externally airol proved a good antiseptic, by no means inferior to iodoform.

The New York Skin and Cancer Hospital.—The old structures of this institution that have been in use for fifteen years are being torn down to give room to a more commodious hospital. The new building will be of four stories and basement, the material to be brick with white limestone dressing. The building will be substantial, pleasingly simple, with all modern sanitary features, with accommodations for forty-two patients and an outside department that can care for 100 patients on ordinary occasions. It will cost $80,000. The basement will contain a complete system of Russian and medicated baths, so necessary in the treatment of skin diseases. The first floor will contain the dispensary, waiting rooms for eighty patients and the officers' rooms. On the second floor will be the ward for treating skin diseases, with the necessary operating rooms and nurses' quarters adjoining. On the third floor will be the wards for cancer patients. Then on the top floor will be private rooms for pay patients, operating room and quarters for attendants. Throughout, the building will be plainly and substantially furnished in brick and tile, that the utmost cleanliness may be observed.

Enzymes.—Fischer and Lindner have found that Frohberg and Saaz's bottom yeast contains an enzyme that is capable of splitting melitose into hexose, a power entirely lacking in invertin. No substance containing an enzyme that had any power to split cane sugar or maltose, could be extracted from the monilia candida, and the yeast itself works in this way only in the presence of toluene. They therefore conclude that the enzyme of this yeast is an insoluble substance, which is gradually disintegrated by the toluene. No enzyme that would invert cane sugar could be derived from the saccharomyces apiculatus. (From the *Cbl. f. Phys.*, for July 11, which also reviews Arthus's study of the various theories in regard to the nature of exzymes.) According to one theory they are albumoses, as although they do not have the same proportions in their composition as the albumoses, they possess the same properties. Others take an exactly opposite view, and still others believe that the enzymes are carbohydrates or gummy substances. Arthus concludes by stating his own theory, which is that the enzymes are not material substances, but only properties of material substances, like the physical forces.

Experimental Suturing of Tendons.—Baldassari has succeeded in securing complete regeneration of tendons in animals after cutting out a piece and making a tubular suture. In one or two months there was no apparent difference in shape, size or strength between the sutured tendons and the normal (rabbits).—*Gaz. d. Osp. e d. Clin.*, June 27.

An Unfortunate Appointment.—The appointment by Governor Altgeld of Mr. W. P. Boyd to the vacancy in the Illinois Board of Pharmacy, occasioned by the tragic death of President Coffee, while perhaps above criticism so far as concerns the qualifications and merits of Mr. Boyd, was nevertheless in deliberate defiance of wise precedents and of the manifest intent of the State pharmacy law, which contains a specific provision as to the manner of appointment, as sanctioned by the druggists of the State. The law provides that the State association shall annually recommend to the governor the names of persons deemed most worthy for appointment on the board. This provision applies in principle as forcibly to vacancies resulting from accidents or resignations as from term expirations. Governor Altgeld, in once before defying this wise provision, and now again exercising his prerogative in contemptuous disregard of the recommendations of the Illinois Pharmaceutical Association proves himself a lover of the very form of tyranny in himself which he affects to despise so heartily in others. The appointment of Mr. Boyd was clearly made for purposes of political profit for the governor in the pending campaign. Whether the outrage perpetrated upon the expressed sentiment of the druggists of the State will make the appointment one of net profit remains to be seen. —*Western Druggist*, August.

Experimental Thyroidectomy.—The *Cbl. f. Chir.* of July 25 contains a contribution to our knowledge of the effects of extirpation of the thyroid gland, with some curious facts collected by Lanz in his extensive investigations. He finds that removal of the thyroid gland and the absence of its secretions can be fully made up to the organism by transplanting other glands and even by subcutaneous injections or internal administration of the extracts, but it is necessary to commence the treatment the very day of the extirpation (dogs). A hen whose thyroid gland had been removed, only laid one egg, one-tenth of the usual weight during the four months after the operation, while, on the other hand, a normal hen fed with thyroid extracts, laid three times as many eggs during the month as any one of the eight control fowls. Lanz also extirpated the gland in fishes. Forty-four operations on the common shark prove that this gland performs a vital function in cold-blooded beings also. Death followed in from twelve to forty days, after a slow, gradual development of the chronic symptoms usually following thyroidectomy.

Philadelphia.

Midsummer Mortality.—During the week ending August 15, the number of deaths from suntroke and heat exhaustion were 173. There were also 106 deaths from cholera infantum, the total mortality of the week among children under five years of age being 315. Probably a large proportion of these cases was caused indirectly by the exceptionally high temperature which prevailed from the 5th to the 14th inclusive. The total number of deaths was 838, which was 47 less than that of the memorable week ending July 13, 1872, during which the mortality from cholera infantum was frightful. Although recently the weather has been exceptionally severe and prolonged, yet the mortality has not been so much increased by the heat as might have been anticipated from the experience of former years. This may be attributable to several causes, among which may be prominently noted the improved paving of all the large streets and particularly of the alleys and small streets, which has been accomplished after several years work. The small streets are frequently flushed with water and great attention is given to the daily collection of garbage and the abolishing of nuisances. Backyards and cellars are inspected and cleaned. Unwholesome and spoiled food is condemned and destroyed and street peddlers are fined for selling articles that are injurious or prejudicial to health. Special attention has been given to the inspection of milk, and vendors of adulterated or watered milk are prosecuted. In addition to these hygienic precautions, the city has six free bathing houses in different parts of the poorer districts, which are largely patronized. The city has recently established a number of small parks in the congested districts and the schoolyards have been thrown open, as well as some of the piers on the river front, for play grounds and breathing places, especially for the younger children. It is also believed that the open trolly cars have had a very decided influence in improving the public health by taking people out into the suburbs, where they can breathe purer air than in the heated streets. It has been stated that the business of the saloons has fallen off during the hot spell, which, if true, indicates that the public has learned the lesson of the special dangers from intemperance during such weather, and the close relation existing between alcoholism and sunstroke. It is also very probable that the deceased mortality may be attributed to modern therapeutic measures, especially in our large hospitals.

Treatment of Insolation at the Pennsylvania Hospital.—The method of treating thermic fever by the external application of ice and ice water, combined with friction, originated at the Pennsylvania Hospital some thirty years ago, during the term of service of the late Dr. James Levick, and its usefulness has been so fully demonstrated that now it may be regarded as the accepted treatment of hyperpyrexia following exposure to the sun. At this institution, temporary wards in tents have been established for the season on the lawn, under the shade of the trees, and the heat has recently been so great, that during the middle of the day the hose was played on the outside of the tents to reduce the temperature. The woman's insolation tent is smaller than the men's, and is in a remote portion of the enclosure. The management of a case is generally as follows: As soon as the patient is brought in by the ambulance, he is stripped and his temperature taken. If it is a case of high temperature, he is put into the bath to which pieces of ice are added and he is vigorously rubbed by the hands of attendants, or he is placed upon a couch and rubbed with pieces of ice, and an ice cap is applied to his head, until the temperature is reduced to the normal or under. If the pulse is weak, hypodermic injections of nitroglycerin (gr. 1-100) with whisky (m. xx) are repeated at intervals of an hour or two; hypodermics of atropin (gr. 1-60) or of strychnin (gr. 1-30) are substituted later, if the heart is weak. In one case hypodermic injections of tincture of digitalis (m. xv) given every hour for four hours, was apparently effective in saving life. Small doses of morphin (gr. 1-8 to 1-6) were also used, where great restlessness or muscular twitching was present. Where there was great fulness of the vessels of the head and neck with symptoms of central congestion, leeching at the occipital region, followed by the ice cap, gave good results. In one patient Dr. Starbuck, in order to relieve convulsive symptoms in an apparently moribund patient, took a pint of blood from the arm and a pint of normal salt solution with immediate good results. After the bodily temperature of the patient has been reduced to somewhere near the normal, he is removed to the medical wards, and there treated with cardiac tonics and a restricted diet, the amount of nourishment or stimulants being regulated by the condition of the patient. After a few days rest in bed, if the fever returns and the temperature of the ward is excessive, the patient is returned to the tent in the open air, and given cold baths, or the cold applications may be used in the ward. In cases attended by hyperthermia, the extraction of excess of bodily heat, and the sustaining of the heart's action are the prin-

cipal objects sought to be attained by the treatment. In heat exhaustion, where the temperature is not greatly increased or remains about normal, the patient is placed in a bed in the open tent, and nitroglycerin or atropin given in moderate doses, followed by strichnin or digitalis during convalescence. The success of this treatment is shown by the fact that out of a total of over sixty cases (of which only four were women) there were only two deaths during the ten days of hot weather. One case at the autopsy was found to have advanced degeneration of the kidneys, and the other had been taken ill on a train and it was several hours before he was brought into the hospital, when he was in a hopeless condition, dying shortly after admission.

A CASE OF MIXED INTOXICATION.—A man 43 years of age, after a prolonged indulgence in alcohol, being suicidally inclined, swallowed, it is said, ten ounces of laudanum and, in order to take the taste out of his mouth, immediately washed it down hy a draught of two ounces of lead water. He was taken to the German Hospital, where the stomach pump was used with the result of bringing to light the lead water and laudanum mixture so familiar to a former generation of surgeons. The patient recovered promptly without any symptoms of narcotism, and may live to prove the truth of his assertion that his life was not worth saving.

APPENDICITIS OPERATIONS.—Operations for removal of the appendix vermiformis nowadays are of such common occurrence as scarcely to require comment. It is, however, noteworthy that the operation has been successfully performed upon a dozen or more of the physicians of this city, especially those who are rising into prominence in various specialties. Dr. Joseph Price, who has operated upon several physicians, is very positive that the tendency to suppurative inflammation of the appendix, which has recently occurred with so much frequency as almost to assume the proportions of an epidemic, is in reality one of the evil consequences of the grippe. He claims that physicians and surgeons of ten or twenty years ago were not so ignorant or unobservant as not to be able to recognize inflammation of the appendix, which every tyro can diagnosticate to-day, and the only explanation possible is that the cases did not occur, and in fact were extremely rare. The wide extension of the influenza epidemics and the well known tendency to mucous membrane inflammation, gastro-intestinal as well as pulmonary, affords, in Dr. Price's opinion, an efficient cause for the present prevalence of appendicitis. Certainly medical men are not fond of surgical operations upon their own bodies, and the fact that they have taken the risks and submitted to the surgeon's knife, demonstrates very clearly that the condition is a real one and not a figment of the imagination of the abdominal surgeon; nor does the frequency of operation argue the existence of an operative mania on his part.

THE CITY BACTERIOLOGIC LABORATORY AND DISINFECTING PLANT.—In the basement of city hall, Dr. J. M. Bolton and his assistant, Dr. Wm. G. Gillespie, have installed a plant for manufacturing a disinfectant solution out of sea water by means of electrolysis. The product is termed "electrozone" in the report just made by Dr. Gillespie of the result of his recent experiments, which proved the solution to be a powerful germicide. He stated that it kills anthrax spores in five minutes or less, and it is superior to corrosive sublimate, since it does not form an inert insoluble precipitate with all albuminous substances as the latter does, thereby diminishing its power and efficiency as a germicide. It is further commended for its cheapness and the facility of its manufacture in large quantity. It is considered an ideal agent for the purpose and as a municipal germicide and disinfectant; according to Dr. Gillespie, it can not be surpassed. As it is so easily manufactured it would seem obligatory upon health authorities to largely avail themselves of this cheap disinfectant.

THE ROENTGEN RAYS IN SURGICAL DIAGNOSIS.—In the recent case of a child, 4 years of age, who swallowed an iron toy "jackstone," which was lodged in the esophagus, it was found that the patient was too restless to permit the ordinary exposure to the X rays required to obtain a negative, and accordingly the fluorescent screen was substituted and the foreign body located between the clavicle and the second rib. Dr. A. C. Wood opened the child's stomach and succeeded in bringing down the jackstone through the cardiac orifice by entangling it in the meshes of a skein of silk. This is the second case of this kind occurring recently at the Hospital of the University of Pennsylvania, the former operation having been performed by Prof. J. Wm. White. The condition of the bones of the foot in the condition known as metatarsalgia, or Morton's painful affection of the foot, was well shown in some radio-photographs exhibited by Dr. Thos. G. Morton, president of the Academy of Surgery, at the last meeting of this society.

THE PUBLIC SERVICES.

Army Changes. Official List of changes in the stations and duties of officers serving in the Medical Department, U. S. Army, from Aug. 14 to Aug. 21, 1896.

Major Henry McElderry, Surgeon (Ft. Robinson, Neb.), leave of absence granted is extended two months.

Navy Changes. Changes in the Medical Corps of the U. S. Navy for the week ending Aug. 22, 1896.

P. A. Surgeon A. M. D. McCormick, detached from the "Bancroft" and ordered to the naval academy.

P. A. Surgeon E. M. Shipp, detached from the "Monongahela" and ordered to the "Bancroft."

Marine-Hospital Changes. Official list of changes of station, and duties of Medical Officers of the U. S. Marine-Hospital Service, for the fifteen days ended Aug. 15, 1896.

Surgeon W. H. H. Hutton, granted leave of absence for thirty days from Aug. 25, 1896, Aug. 13, 1896.

Surgeon H. W. Sawtelle, granted leave of absence for twenty days from Aug. 25, 1896, Aug. 13, 1896.

Surgeon C. E. Banks, to assume temporary command of the Service at Vineyard Haven, Mass., for thirty days, Aug. 13, 1896.

P. A. Surgeon S. D. Brooke, to assume temporary command of the Service at Cleveland, Ohio, Aug. 8, 1896.

P. A. Surgeon R. W. Woodward, granted leave of absence for thirty days from Aug. 13, 1896, Aug. 11, 1896.

Asst. Surgeon Jos. B. Greene, granted leave of absence for twenty-three days from Sept. 14, 1896, Aug. 13, 1896.

Change of Address.

Brassell, T. C., from Stroman to Leesville, Tex.
Greeno, H. S., from Masonic Temple to 70 State St., Chicago.
Lacy, Hattie E., from 1461 Jackson Boul. to 820 N. Park Av., Chicago.
Murrull, T. E., from Santa Fe, N. M., to 2205 Colfax Av., Denver, Colo.
Renn, T. H., from 1241 Milwaukee Av. to 227 Townsend St., Chicago, Ill.
Smith, O. E., from Grand and Caroline Sts. to 3569 Lindell Av., St. Louis, Mo.
Seacat, G. M., from Kinsley to Cherry Vale, Kan.
Seagley, J. B., from Chicago, Ill., to Scott, Ind.
Tasche, J. C., from Sheboygan to Howard, Wis.
White, J. W., from 64th and Grace Av. to 754 69th Pl., Chicago, Ill.
Walker, Robt. S., from Beacon, Mich., to Toledo, Ohio.

LETTERS RECEIVED

American Endoscopic Company, Providence, R. I.; American Therapeutic Co., New York, N. Y.; Anheuser-Busch Brewing Co., St. Louis, Mo.; Atkinson, W. B., Philadelphia, Pa.; American Sports Publishing Co., New York, N. Y.

Bishop, S. S., Chicago, Ill.; Borland, E. B., Pittsburg, Pa.; Boger, Frederick, New York, N. Y.; Bernd, Henry & Co., St. Louis, Mo.; Byrd, W. H., Salem, Ore; Brown, Warren, Tacoma, Wash.; Benson, John A., Chicago, Ill; Bryant, D. C., Omaha, Neb.; Bovinine, The, Co., New York, N. Y.; Beri-beri, David, Baltimore, Md.

Cone, Andrew, New York, N. Y.; Chapman, Jas. J., Washington, D. C.; Cain, J. S., Sewanee, Tenn.; Christison, J. S., Chicago, Ill.; Connor, Leartus, Detroit, Mich.; Chailé, S. E., New Orleans, La.

Dufour, C. R., Washington, D. C.; Dry Extract Co., Janesville, Wis.; Dunham, W. F., Keene, N. H.; Davis, N. S., Chicago, Ill.; DeCourcy, J. O., St. Libory, Ill.; DeLee, J. B., Chicago, Ill.

Flint, Austin, New York, N. Y.; Fite, C. C., New York, N. Y.; Fisher, John C., Lytton Springs, Cal.

Gilson, A. L., New York, N. Y.; Gratigny, L. H., Cincinnati, Ohio; Guldrum, F., Sacramento, Cal.; Gilpin, Langdon & Co., Baltimore, Md.; Gardner, R. W., New York, N. Y.; Gould, J. B., Minneapolis, Minn.

Haldenstein, J., (2) New York, N. Y.; Hugus, H. P., (2) Ravenna, Ohio; Hamden, C. H., Cedarville, N. Y.; Hughes, C. H., St. Louis, Mo.; Hummel, A. L., Adv. Agency, New York, N. Y.; Henkle, C. K., Moscow, Idaho.

Josephi, S. E., Portland, Ore.; Jones, Louis, H., Atlanta, Ga.; Jones, H. Webster, London, England.

Kane, Evan O'Neill, Kane, Pa., Kneipp Malt Food Company, Manitowoc, Wis.; Kreider, Geo. N., Springfield, Ill.

Lofton, Lucien, (2) Atlanta, Ga.; Lewis, Denslow, Chicago, Ill.; Lewis, W. C., Boston, Mass.

Meserve, Chas. F., Raleigh, N. C.; Murphy, Garrett, Garden City, Minn.; Munroe, J. P., Davidson, N. C.; Medical Era, The, Chicago, Ill.; Meany, Wm. B., St. Louis, Mo.; Martins, E. J., Forsyth Junction, Mo.; MacLean, Donald, Detroit, Mich.

Nash, Alfred, Joliet, Ill.

Ople, Thos., Baltimore, Md.; Oxford Publishing Co., Chicago, Ill.

Pershing, Howell T., Denver, Colo.; Parker, Francis L., Charleston, S. C.; Page, C. E., Boston, Mass.; Purvis, C. B., Washington, D. C.; Peeples, D. L., Navasota, Tex.; Playter, Edward, Ottawa, Canada; Parmele, C. R., (2) New York, N. Y.

Ross, Geo. M., Chicago, Ill.; Rockey, A. E., Portland, Ore.

Stern, Max J., Philadelphia, Pa.; Steele, D. A. K., Chicago, Ill.; Stover, G. H., Eaton, Colo.; Sharp & Smith, Chicago, Ill.; Schroeder, & Hinkle, Columbia, Pa.; Sturgis, E. M., New York, N. Y.; Strueh, Carl, Chicago, Ill.; Simmons, Geo. H., Lincoln, Neb.; Stallman & Fulton, New York, N. Y.; Stearns, F. & Co., Detroit, Mich.

Tucker, Willis G., Albany, N. Y.; Travis, B. F., Chattanooga, Tenn.; Taylor, J. J., Philadelphia, Pa.; Thomas, F. S., Council Bluffs, Iowa.; Trout, E. H., Oak Park, Ill.

Wilber, M. R., Neenah, Wis.